

**'It's Important to  
Know In Time'**Member Associated Business  
Papers, Inc.; Audit Bureau  
of Circulations.**The Newspaper  
of the Industry****Air Conditioning &  
REFRIGERATION**Reentered as second-class matter October 3, 1936 at the post office at Detroit, Michigan, under the Act of March 3, 1879.  
Trade Mark Registered U. S. Patent Office. Copyright, 1941, by Business News Publishing Co.**NEWS****Priority Order  
In Making For  
Store Repairs****Maintenance Parts For  
All Retail Outlets  
May Be Covered**

WASHINGTON, D. C.—An order providing priority ratings for maintenance and repair materials for retail stores of all types, covering the smallest neighborhood shop as well as the largest department store, is in process of preparation and should be ready for issuance early this month, according to reports circulating here.

The measure will place retailers' requirements on a par with those of manufacturers and wholesalers, who were granted an A-10 rating for maintenance and repair supplies Oct. 16.

According to information here, the forthcoming order will be considerably broader than was originally intended, and will include within its scope the upkeep of private residences, of theaters, and of many other business establishments for which no specific provisions have been made in priorities orders.

**Copper 'Ceiling' Will  
Extend to Appliances**

WASHINGTON, D. C.—As part of a comprehensive program for stabilizing prices of all products made of copper, brass, or other copper base alloys, announced recently by OPA Administrator Leon Henderson, attention will be directed at prices of all durable goods and their parts made largely of copper.

These include such items as radios, ranges, cooking and table utensils, plated flatware, fire extinguishers, generators, motors, signal apparatus, transformers, and certain automobile and truck parts. Ceilings will be placed on such products if necessary, it was announced.

In announcing the program, which follows up the recent copper conservation order issued by OPM, Mr. Henderson pointed out that curtailment of raw material supplies is not in itself sufficient justification for raising the price of any manufactured article. Plans of OPA regarding products made largely of copper are based on this premise and it will be followed rigidly, he asserted.

**Operation of Priorities System Analyzed  
For Rema Members By OPM Official**

WHITE SULPHUR SPRINGS, W. Va.—An explanation and analysis of the priorities system together with an evaluation of some of the consequences of priorities during the coming business year, were presented by Dr. Edward Ewing Pratt, regional coordinator, Priorities Division, Office of Production Management, in a talk before the recent fall meeting of the Refrigeration Equipment Manufacturers Association here.

"Priorities simply mean 'first,' that is, the putting of first things first," began Dr. Pratt. "Priorities are in existence for the sole reason that they are absolutely necessary—because certain raw materials are short and because we have insufficient productive capacity to produce many articles essential to the defense program."

"These shortages of raw materials and our limited productive capacity will mean severe limitations of

**35% Cut In Steel  
For Ice Box Use  
Ordered By U.S.**

WASHINGTON, D. C.—Household ice box manufacturers were ordered Oct. 28 by Donald M. Nelson, Director of Priorities, to reduce their steel consumption 35% for the period from Sept. 1 through Dec. 31, 1941. This reduction will be continued through Aug. 31, 1942 at about the same level, according to tentative plans of the Division of Civilian Supply.

Amount of reduction will be based on the monthly average of steel used during the 12 months ending June 30, 1941, it was stated in Limitation Order L-7, issued to cover the curtailment.

Because the ice box manufacturers still possess, in many instances, wood-working facilities for making at least a part of the boxes of wood, it was decided to curtail the industry's operations on a steel tonnage basis rather than place a ceiling on the number of units the industry could produce. This decision followed discussions with representatives of the industry.

Approximately 14,400 tons of steel were consumed by the industry in the 12 months ending June 30. The required reduction in use of steel will result in savings of between 5,000 and 5,100 tons a year. Other critical materials consumed by the ice box industry include brass, cork, nickel, rubber, and zinc.

The steel restriction covers use of steel from the manufacturer's own inventories of raw and semi-pro-

**2 Warehouses Closed  
By Wolverine Tube**

DETROIT—Wolverine Tube Co. last week announced that, effective Oct. 24, it was closing its warehouses in Long Island City, N. Y., and Chicago, because of inability to get enough metals to maintain sufficient stocks as a result of defense requirements.

Inquiries and orders from customers in the two areas will be handled by the headquarters office here, the announcement said, insofar as is possible with the amount of copper and zinc made available by OPM.

Warehouses in both cities, however, are being closed only temporarily, and will be reopened when the supply of copper is sufficient to permit adequate stocks to be carried, it was asserted.

civilian requirements—not only of many luxuries but of many other articles which most of us now regard as necessities. Few people realize the full scope and effect of these shortages which have been brought to the attention of the public through the priorities systems. For example—

"The estimated national income of the United States for 1940, 1941, and 1942 is approximately 90 billion dollars for each year. Of this amount, 20 billion is contributed by agriculture. The remaining 70 billion is contributed by industry, mining, transportation, and business in general. It is estimated that during the year 1942, spending for defense will be 30 billion dollars."

"These facts mean that in 1942 almost one-half of our industrial and business effort will have to go for defense. In 1941, it is estimated that

**OPM Power Cut  
Does Not Extend  
To Refrigeration****But Appliance Promotions  
Are 'Out' in 7 Southern  
States Affected**

WASHINGTON, D. C.—The partial power "blackout" ordered by OPM to cut use of power by 30% in seven southern states effective Nov. 10 does not apply to refrigeration and food preservation plants, nor does it affect residential consumers using electric refrigerators and other appliances, according to J. A. Krug, chief of OPM's power section. Drives for new-appliance business, however, are banned under the restricted program.

The curtailment has been ordered because a serious shortage of water threatens the supply of power needed for defense industries.

Although householders will not be hit by the curtailment, they will be urged to conserve power wherever possible, Mr. Krug said, through a cooperative publicity campaign in the affected areas. It goes without saying, he added, that campaigns to promote the sale of electrical appliances which might increase the consumption of power will be halted.

States affected are Alabama, Georgia, Tennessee, eastern Mississippi, northwestern Florida, southeastern South Carolina, and North Carolina. The restrictions prohibit altogether such uses as sign and show window lighting, outdoor signs and decorations, and night lighting for sports and other amusements. "Non-exempt" plants using more than 10,000 kwh. per month are cut by 30%; vital defense industries and others providing essential civilian services are not affected. Pooling of power by 40 private and public utilities in 13 states has been ordered, to make available a maximum of power in regions where it is most urgently needed.

**N. Y. Servicemen See  
Need to Organize**

NEW YORK CITY — Appliance dealers, jobbers, and servicemen from the metropolitan area agreed at a meeting last week that there exists a definite need for some sort of independent servicemen's organization in this area to standardize service workmanship and prices and to bolster public confidence in the repair man's ability and integrity.

About 60 members of the trade attended last week's meeting. Keystone of this attendance was a committee composed of one representative from each of the various dealer, jobber, and service groups in the area. The gathering, which climaxed a series of meetings protesting the Commonwealth Edison proposal for a super-service plan (reported in

**Edison Service Plan  
'All a Mistake' But  
Mr. Jaffe's Still Trying**

By Phil B. Redeker

NEW YORK CITY—"It was all a mistake" seems to be the general verdict reached on the so-called "Edison Plan" to establish a super-service organization for the repair and maintenance of all refrigerators and other major appliances in the New York metropolitan area.

In fact, E. F. Jaffe, Consolidated Edison vice president, has let it be

**Washer & Ironer  
Production Cut  
17.3% By OPM**

WASHINGTON, D. C.—A curtailment order slashing production of household washers and ironers 17.3% below average monthly output in the 12 months ended June 30, 1941, was issued Oct. 29 by Donald M. Nelson, OPM Director of Priorities. The order is retroactive to Aug. 1, and on an annual basis would reduce steel consumption of the industry by 32,000 tons.

Substantial savings also are expected to result in such other scarce materials as copper, brass, iron, zinc, rubber, chromium, nickel, aluminum, tin, and bronze.

Thirty-four companies, employing about 13,000 workers, are affected by the curtailment. However, the entire industry has been certified to the War Department for special treatment in obtaining defense orders, and a \$12,000,000 industry-wide contract for gun mounts already has been awarded, to alleviate expected unemployment as a result of the production cut.

Under the limitation program, average monthly quotas for the industry will total 164,410 units for the period from Aug. 1 to Dec. 31, a cut of 17.3% as compared with

(Concluded on Page 2, Column 5)

**OPM Studies Plan of  
Allocating Steel**

WASHINGTON, D. C.—The Supply Priorities and Allocations Board has requested the Office of Production Management to develop an allocation system for steel. Substantial steps in that direction have already been taken in the handling of orders for steel plate, and the system has also been in use for some time in regard to pig iron.

Extension of this policy throughout the industry means that distribution of steel through priorities ratings will gradually be replaced by direct allocations, with emphasis being placed first on those types of steel most in demand for defense purposes.

The system will be developed through joint operation by several groups within OPM—principally the Division of Priorities, the Division of Civilian Supply, and the Iron and Steel Branch of the Division of Materials. It was emphasized that because of the size and complexity of the task it would take some time and a considerable staff to work out the respective allocations of the numerous varieties of steel products, and details regarding the precise manner in which the plan will be put into effect are still to be worked out.

SPAB's action was taken after advice from Army and Navy officials that increasing problems in connection with deliveries of structural steel, nickel steel, high-speed

(Concluded on Page 2, Column 1)

**Revised Rules  
On Instalments  
Plug Loopholes****Some Restrictions Eased  
By New Regulations  
Effective Dec. 1**

WASHINGTON, D. C.—Installment-credit regulations of the Federal Reserve Board have been revised for the purpose, it is said, of closing some loopholes and easing some restrictions. Revisions will be effective Dec. 1.

There are six major changes. Maximum amount of instalment loans covered by the regulations will be increased from \$1,000 to \$1,500.

Instalment lenders, beginning Jan. 2, will require borrowers to sign a statement explaining the purpose of the loan.

Business loans and loans for the purchase or construction of a complete building will be exempt from the regulations.

Farmers will be allowed greater leeway in payment of instalment loans.

There will be no requirement for a down payment if it would not total more than \$2.

An optional arrangement will be permitted with "add ons"—that is, additional credit added to any original credit—whereby the new credit may be treated separately or the combined credit may be paid up in 15 months.

Requiring borrowers to state the purpose of an instalment loan, the Federal Reserve Board explains, closes the loophole which permitted cash lenders to lend the full price of a "listed" article unless the article

(Concluded on Page 2, Column 3)

**Westinghouse Ready  
On Binocular Order**

MANSFIELD, Ohio — Production work on a \$3,000,000 order for binoculars for the United States Army will start shortly at the Westinghouse Electric & Mfg. Co. plant here, according to C. G. Hillier, in charge of defense products at the Mansfield plant. This is the first direct war emergency order undertaken by the Mansfield factory, which produces electric refrigerators and other household appliances. War orders in other Westinghouse plants however, account for more than half of the company's total production.

Floor space of approximately 50,000 sq. ft. has been allocated to the new activity, in a recently completed building originally intended for manufacture of electrical equipment for the home. A total of 700 men and women will be employed, all to be drawn from the 5,000 workers now engaged at the plant.

The Westinghouse plant will work

(Concluded on Page 11, Column 3)

**Industry Committee's OPM Report  
Published in Full in This Issue**

On pages 5 through 8 of this issue the News publishes the complete report made to the Office of Production Management by Sub-Committee No. 4 (Priorities, Ratings, and Allocations) of the 64-man group recently appointed.

As was announced in last week's issue, the committee requests a blanket A-3 rating for the refrigeration and air conditioning industry, and proposes ways to effect a 35 to 50% production curtailment by eliminating equipment for non-essential civilian uses. In addition to these and other proposals, the report includes important facts about the industry.



## Allocation of Steel Considered By OPM

(Concluded from Page 1, Column 4) steel, tool steel, and steel plate for defense purposes could no longer be solved properly through the priorities system alone.

Primary purpose of the step is to assure distribution of the available supply where it will do the most good. Operation of the existing priorities system does not provide an adequate check against hoarding and the accumulation of excessive inventories. Furthermore, under priorities that is no simple way by which the armed services and civilian consumers may be assured that the nation's over-all steel production will be properly proportioned into the types of steel which are in greatest demand.

This balancing of production would be achieved with service requirements in mind, so that the Army and Navy would be assured of an ade-

quate flow of steel needed for defense. The allocation then could proceed industry by industry and product by product, in order that the nation's expanding steel capacity could be properly fitted to its expanding needs for this basic and vital metal.

### SHORTAGE INDICATED

Studies prepared by the OPM Bureau of Research and Statistics indicated that during 1942 total steel production would be in the neighborhood of 89 million ingot tons. Defense orders for November are being received at a rate of 60% of production. It is estimated that if there were no restrictions on supply, civilian orders would call for 86 millions tons—a large increase over civilian consumption in recent years, due to the rise in national income incident to the defense program. A schedule of restricted civilian requirements was drawn up, indicating that on a restricted basis the civilian economy would need approximately 58 millions tons of steel. Consequently, a shortage of steel even with civilian requirements restricted is indicated.

## Instalment Rules Revised By Board

(Concluded from Page 1, Column 5) were given as security, while dealers in those articles were required to obtain down payments.

The "seasonal nature" of farmers' income led to the changes in regulations covering their borrowing, the board said. Any schedule of instalment loan payments will be permitted farmers, so long as the down payment and 18-month maturity requirements are met, and provided that one half of the balance is paid within one half of the maximum maturity.

Elimination of its proposed \$5 minimum monthly instalment requirement, which would have gone into effect Jan. 1, was also announced by the board. The board, however, has prohibited extension of an instalment loan for the purpose of making a down payment on any of the 24 articles listed in the regulations.

## OPM Plans Orders To Control Material Uses

NEW YORK CITY—A new series of orders, to be known as "S" (for suspension) orders, will shortly be issued by the Priorities Division of OPM as part of a detailed compliance program, William P. Homans, coordinator of the priorities field service for the northeastern area, said here recently.

Plan is to prevent use of materials obtained under priorities for purposes other than those for which priorities were granted. Effect of the suspension order would be to deny additional materials to the company affected for a specific period.

Even if the companies affected are working on defense orders, and use materials obtained under priorities for non-defense purposes which have no priority or preference rating, new materials will be denied them.

"It is intended," he declared, "that as few companies as possible shall be allowed to get away with use of materials obtained under priorities for any other purposes."

## OPM Trims Washer Production 17.3%

(Concluded from Page 1, Column 4) the monthly average of 198,856 units for the year ended June 30, but a drop of but 9% from the August-December production in 1940.

The cut in production also has been graduated according to the size of the various companies in the industry. Plants producing 12,000 or more units a month must cut output 20%; those turning out between 5,000 and 12,000 units monthly must reduce production by 16%; and those with capacities from 1,200 to 5,000 units per month are curtailed by 12%. Plants producing less than 1,200 units monthly need not reduce their output.

The restriction order is further qualified by a special provision giving large manufacturers a choice between cutting monthly production 20% or agreeing not to produce more than 50,400 units in the five-month period, whichever plan gives them greater output. Likewise, plants scheduled for a 16% curtailment may instead adopt a production ceiling of 22,000 units for the period, and companies in the 5,000 class may confine themselves to a 6,000-unit maximum instead of the 12% monthly curtailment.

Estimated demand for washers and ironers to replace those wearing out during the coming year is 750,000 units. Expected production will more than cover this, it was pointed out, leaving a substantial number for new installations. Ironer production normally is about 11% of the washer total.

In connection with the curtailment order, manufacturers also were asked to reduce use of critical materials as much as possible, and to reduce styles and models as an additional materials economy measure.

## Own Group Needed, Say N. Y. Servicemen

(Concluded from Page 1, Column 3) recent issues of the NEWS), was held at the Park Central hotel.

Chief outcome of the meeting was the appointment of a committee including representatives of dealer, jobber, and service groups to meet this week at the Park Central to effect formal organization of the independent service organization, select its name, and elect its officers.

The meeting last week was opened by Charles Wardlow, temporary chairman of the group. John F. Rider, publisher of radio service manuals, declared that an organization such as the one proposed would not only restore public confidence in service work but also would financially benefit dealers by developing more sales. Only 50% of serviceable items in the home are now being serviced, he declared.

He then went on to outline a platform on which such an organization might be based. Included in this platform were provisions for financial guarantee of work done by members, a legal staff for the protection of members, honest service at reasonable rates, bonding and insuring of servicemen and supplies, coordinated planning for the trade, and interchange of credit information.

The organization also would serve as a clearing house for customer complaints according to this plan.

## Ice Box Firms Ordered To Cut Steel Use 35%

(Concluded from Page 1, Column 2) cessed metal, as well as the use of steel from all other sources.

Eleven plants in 10 communities, employing 3,200 workers, are affected by the new order. The Labor Division of OPM has announced that it will make a survey of any unemployment resulting from this curtailment, and will, if necessary, institute a program designed to relieve the situation.

In a letter from the Division of Civilian Supply announcing the restriction on steel, manufacturers were asked to limit critical materials normally used through conservation measures, and to reduce the number of models, concentrating on those which make the most economical use of steel and other critical materials.

# Today, YOU'LL MEET NO SALES RESISTANCE TO A REGULAR CHECK-UP SERVICE

*Read* how you can build future business, insure the normal operation of equipment employing "Freon-12", and create customer goodwill.

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ness for you in the years ahead.

By promoting a regular check-up service you can help the entire refrigeration industry and at the same time build up customer acceptance of maintenance service that will carry over to normal times.

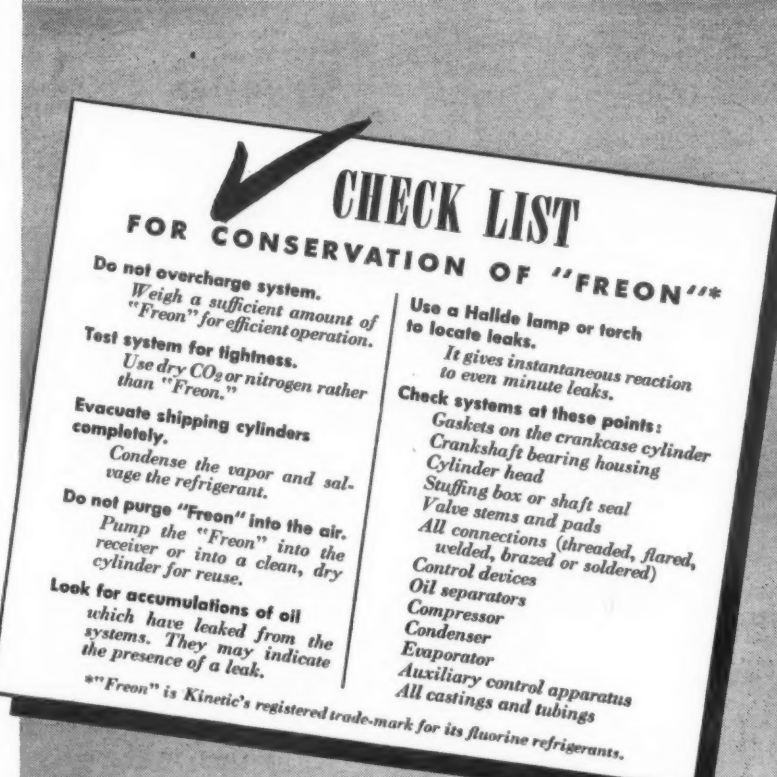
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WHEN PATIENT'S  
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  - Cylinder head
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  - Control devices
  - Oil separators
  - Compressor
  - Condenser
  - Evaporator
  - Auxiliary control apparatus
  - All castings and tubings

\*"Freon" is Kinetic's registered trade-mark for its fluorine refrigerants.



# FREON

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safe refrigerants





## U.S. Has Ample Cold Storage Space, OPM Claims

### 8 Refrigerated Tractor-Trailer Trucks Haul Frozen Foods Cross-Country

#### 2-Hp. Unit Holds Truck Interior At 0°F.

WASHINGTON, D. C.—The 746,646,000 cu. ft. of cold storage warehouse space in this country are ample to preserve the nation's perishable food supplies for both civilian and defense needs, according to a survey released recently by Ralph Budd, OPM's transportation commissioner.

At the middle of June there was 120,000,000 cu. ft. of space vacant.

This survey of cold storage warehouses and meat packing plants was made by the Marketing Service of the Department of Agriculture at the request of the Warehousing and Transportation Unit of OPM's Transportation Division.

"The survey shows no dangerous condition which might interfere with the defense effort," said Harry D. Crooks, consultant on warehousing. "The space appears ample for current needs although second-choice space may have to be used at times. The facts produced will form a basis for planning of storage necessary in connection with the stockpiling of food under the new agricultural expansion program."

Most of an additional 33,000,000 cu. ft. of space could be used for food storage in an emergency, the survey shows. Some 13,000,000 cu. ft. is now unused but could be conditioned for use almost immediately. The remaining 20,000,000 cu. ft. is now used exclusively for ice storage.

Warehouse space has expanded by 221,000,000 cu. ft. in the past 20 years. The industry has shown a steady growth since 1921 except for the 1933-35 period when some obsolete warehouse space was abandoned. At the middle of June, 1941, space occupancy varied considerably by type of plant. Meat packing plants were operating at 94.5% capacity, while one-crop storage plants where cooler space predominates were only 27.5% occupied.

An occupancy of 53.1% in the country as a whole was shown by the survey, which charted breakdowns of space by type of plant for the whole U. S. as well as by regions and states.

This is the first of three major surveys which the Warehouse Unit is undertaking.

## Largest Cafeteria Uses Many Machines

LOCKLAND, Ohio—What is said to be the world's largest cafeteria is scheduled for completion this month at the engine plant of the Wright Aeronautical Corp. here. This cafeteria, comprising seven distinct units, can seat more than 5,000 persons at one time.

Refrigeration equipment for the cafeteria was engineered and sold by Electric Products, Inc., York distributor in Jersey City, N. J., and was installed by the Cincinnati branch of York Ice Machinery Corp. Unusual feature of the installation is that, despite its magnitude, it has been unitized wherever possible, consisting basically of 46 York "Freon" compressors, connected to a variety of food storage and ice-making equipment.

Equipment includes a 65 x 12-foot five-compartment cork and cement cooler, equipped with stainless steel roller seal doors, York high-test flash coils, York "Freon" water-cooled compressors, with each compartment having its own temperature selector, making possible five individually controlled storage arrangements.

The cafeteria also has 18 self-contained ice cream cabinets, eight special dairy refrigerators, eight cafeteria-type Day & Night water coolers, and a varied assortment of reach-in boxes of short-order type, ice cube makers, and dough retarders.

All salad pans, cold pans, and beverages are refrigerated by FlakIce supplied by two model DER-10 York machines, which have a nominal capacity of 2 tons of "ribbons" daily.

Successful completion of this job illustrates the importance of close cooperation between factory, distributor, and dealer, in the opinion of Paul B. Hughes of Electric Products, Inc., since the original layout was made by a dealer, engineered and supervised by a distributor, and installed by a factory branch.

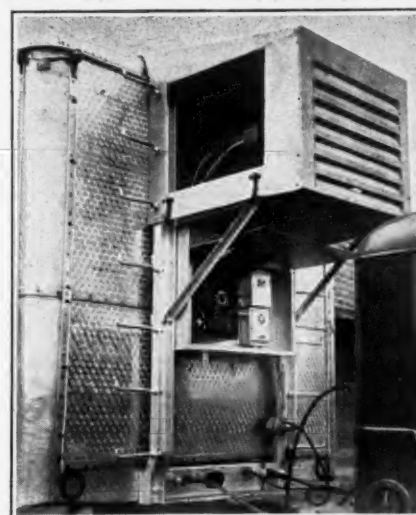
BRIDGETON, N. J.—Eight refrigerated tractor-trailer trucks, capable of holding 0° F., are being utilized by the Cumberland Automobile & Truck Co. here to transport frozen foods to such distant points as Florida, Chicago, and Canada.

Refrigeration is supplied by a 2-hp. Frick unit mounted outside at the front of the trailer in a ventilated housing. It consists of a 2-cylinder compressor, air-cooled condenser, and receiver, and is powered by a 2-hp. Century motor having two windings—one for 115-volt direct current supplied by the truck's special generator and the other for 220-volt, 60 cycle alternating current.

The refrigeration unit is automatically controlled by a thermostat, and is equipped with thermal valves,



Above is one of the big tractor-trailers used to haul frozen foods. Close-up of housing and switch box is shown at right.



a heat exchanger, and a magnetic starter.

Mounted in the tractor is a 2 kw. capacity Century generator driven through a power take-off and flexible couplings from the gear box. A

button on the gear shift permits the driver to disengage the generator to allow shifting of gears as usual, without extra effort. A switch box at the front end of the trailer receives electrical connections from the gen-

erator, or from an outside source.

In the trailer finned cooling coils are suspended from the roof. A wire mesh protects the coils.

Refrigeration is an absolute essential to our national defense in maintaining the health and morale of the people of America. Being thoroughly conscious of these facts, we are doing everything within our power to maintain the flow of our products to the refrigeration industry — particularly of material necessary for repairs or replacement of existing installations.



Because of the seriousness of this nations emergency, defense requirements must take precedence. We are cooperating with our government's requirements to the limit of our ability as we believe you would have us do — but we still want and intend to help you in every way possible.

See your jobber first — He will do his utmost to serve you as we will to serve him.

**MUELLER BRASS CO.**  
PORT HURON, MICHIGAN



## Air Conditioning & REFRIGERATION NEWS

Trade Mark registered U. S. Patent Office;  
Established 1926 and registered as  
Electric Refrigeration News

F. M. COCKRELL, Founder

Published Every Wednesday by  
BUSINESS NEWS PUBLISHING CO.  
5229 Cass Ave., Detroit, Mich.  
Telephone Columbia 4242

Subscription Rates  
U. S. and Possessions, Canada, and all countries  
in the Pan-American Postal Union: \$4.00 per year;  
2 years for \$7.00. All other foreign countries: \$6.00  
per year. Single copy price, 20 cents. Ten or  
more copies, 15 cents each; 50 or more copies,  
10 cents each. Send remittance with order.

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VOLUME 34, No. 10, SERIAL No. 659  
NOVEMBER 5, 1941

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**Refrigeration Is Essential  
To America's Health  
And Efficiency**

## Golden Opportunity At Chicago

THE LESSON of Harold ("Donald Duck") Ickes and his fake oil shortage fiasco should not be lost on the refrigeration industry. Here was a case where the pressure of organized public opinion forced a cabinet officer to retract his position even at the cost of making a public laughingstock of himself.

Just how and why Ickes came to the conclusion that Eastern motorists should consume less gasoline may never be known. Probably a combination of factors led to his decision.

First and foremost of these is the widely held opinion in Washington that the people must be made to "sacrifice" in order to understand that they are in a war. Gasoline rationing was one quick and effective way of imposing that idea.

### WHY GAS 'SHORTAGE SCARE' WAS STARTED

Still other factors: (1) the military advisability of having more bombproof pipelines; (2) the desire of many Eastern industrialists to have access to Texas gas (much of which is now wasted); (3) exaggerated fear of shipping losses which might be inflicted by Hitler's submarines; and (4) the desire of some New Deal theoreticians to conserve electricity by closing retail establishments at night.

So a gasoline shortage was proclaimed. It wasn't there, really—even after England had been given a flock of tankers she didn't need (and has now returned).

But, in the words of Graybar's canny Dave O'Brien: "There was a gasoline shortage because Ickes said there was."

At first the people bowed to the will of their masters. But then the American Automobile Association—a

nationwide organization of car owners—did a bit of investigating. It soon found that Britain didn't need the tankers recently transferred, that thousands of railway tank cars were idle, that concrete oil-carrying barges could be quickly launched, and many other things.

In the meantime, James Tobin, one of the OPM's bright young men, did some calculating and discovered that the projected pipelines would require more steel than could be spared.

### AAA MEMBERSHIP GOES INTO ACTION

The American Automobile Association then went into action—politically. There followed investigation by a Congressional committee, which heard the facts and branded Ickes' oil "shortage" as a fake.

Still Ickes sat tight until AAA members told him what they were going to do next. At their national convention, thousands of delegates were going to "blow the roof off."

This threat as massed public opinion standing in condemnation was too much even for Ickes, who has repeatedly shown that he has no fear of individuals, no matter how big or important.

And now we come to a possible parallel in the refrigeration industry. Artificial and arbitrary restrictions have been imposed upon household refrigerator production. Some cuts are predicted on certain commercial refrigeration items. Priorities are working hardships upon parts producers.

### UNNECESSARY HOARDING BY ARMY AND NAVY

Yet the evidence grows that there has been unnecessary hoarding of metals by the Army and Navy, and unnecessary and extravagant use of scarce materials (particularly copper) in Federal housing projects, by the Rural Electrification Administration, and by other governmental agencies.

It is a well known New Deal theory that so long as many manufacturers (and their skilled labor) are allowed to continue making what they've been making, they won't want to make machines of death.

A corollary of this theory is that by restrictions-in-advance-of-necessity, and by the withholding of materials, such manufacturers and skilled laborers can be forced into armament work.

### THREE FLAWS IN GRANDIOSE THEORY

Three flaws in this grandiose theory are:

(1) Thousands of small manufacturers do not have the proper equipment or facilities for turning out war materiel.

(2) Certain products—notably refrigeration—may be more useful to the nation's defense than a multiplication of guns and such.

(3) Inasmuch as armaments are sold directly to the government, wholesalers and retailers are left out in the cold.

The Board of Directors of the Refrigeration Equipment Manufacturers Association has just voted to hold the Fourth Annual All-Industry Refrigeration and Air Conditioning Exhibition in Chicago this January.

This, in spite of the protests by some manufacturers that they didn't have much in particular to exhibit.

## They'll Do It Every Time . . . . By Jimmy Hatlo



Decision to hold the show, we understand, was based upon its morale value, and the opportunity it presented to demonstrate both to old customers and the New One (Uncle Sam) just what the industry is doing for the prosecution of the war.

### MONSTER MEETING OF ALL FACTIONS PLANNED

Also, it is planned to stage a monster meeting of all factions within the industry on one afternoon, to which high government officials would be invited—along with representatives of the press.

Now here indeed would be an opportunity. If properly handled and not abused by "radicals," such a meeting might well have tremendous consequences.

If it can be proved that materials shortages are artificial, let's smoke the facts out and be prepared with the evidence—to be presented quietly, but honestly.

If it can be proved—and it can—that this industry has not shirked the opportunity to contribute to the re-armament program, let's show the evidence.

### LET'S EXHIBIT PROGRESS MADE BY INDUSTRY

If it can be proved—and it can—that the industry has made great strides in the creation of effective substitutes for scarce materials, let's exhibit that progress.

If it can be proved—and it can—that refrigeration is honestly essential to national defense, and that interruption in the flow of necessary production would turn out to be a national calamity, let's demonstrate that truth once and for all.

The industry will never have a better opportunity to establish its essentiality.

## LETTERS

### SERVICING GOES ON IN ENGLAND

173 Rutland Rd.  
West Bridgford  
Nottingham, England

Editor:

Please supply me with your Master Servicing Manuals C-2 and C-3, and also Air Conditioning Manual B-1.

I have a copy of C-1 and have been

trying for months to obtain C-2 and C-3 here in England, but without success.

Cash enclosed to cover three manuals and postage. Should this be insufficient, please state different and I will remit it at once.

I am servicing all makes of refrigerators and am connected to the Frigidaire organization.

Literature covering our work is practically non-existent here, particularly on small automatic plants.

N. A. W. BADLAND

### ADVERTISING MANUAL BOON TO DEALERS

The Rapid City Daily Journal  
Rapid City, S. D.

Editor:

Enclosed find \$2 cash for the R-2 Manual you sent me on approval a week or so ago. I was surprised to find such sound advice and so much common sense coming from one who is on the "buying end" of advertising.

If every retail advertising manager would read this book and profit by it—literally millions of dollars could be saved each year which are now being spent for wasteful and unproductive advertising.

M. O. WASSER,  
Local Advertising Manager

### CONGRATULATIONS ON SUCCESS OF NEWS

224 Neal Ave.  
Dayton, Ohio

Editor:

I want to congratulate you on the evident success of AIR CONDITIONING & REFRIGERATION NEWS during the past year since you have had added responsibilities placed on your well-tailored shoulders.

I enjoy reading the NEWS every week, although I am no longer active in air conditioning and refrigeration work.

LESTER S. KEHLHOLTZ,  
Research Engineer

### MISSING 'NEWS' LIKE MISSING THE PARADE

701 Cherry St.  
Erie, Pa.

Editor:

Enclosed find my check for \$4.00 covering one year's subscription to AIR CONDITIONING & REFRIGERATION NEWS. I received your paper for several years, and then let my subscription lapse. I find, that, to not get your NEWS, when one is in the industry, is like standing on the street corner after the parade is past.

FRANK C. LONG

### 'ARTICLES ARE SPLENDID, SEND SIX COPIES'

Motor Power Equipment Co.  
2303 Ford Parkway  
St. Paul, Minn.

Gentlemen:

Attached hereto find our order S-15262 for six copies of your Sept. 3 issue of REFRIGERATION NEWS.

There are some splendid articles in it which we desire to put in the hands of our travelers in this territory.

We assume these will be charged to us at the regular rate.

D. C. MURPHY,  
Department Manager



# Complete Text of Industry Committee's Report To OPM

## Group Asks A-3 Rating, 35%—50% Curtailment

**Editor's Note:** On this and the following three pages appears the complete text of the report made to the Office of Production Management by Sub-Committee No. 4 (Priorities, Ratings, and Allocations) of the 64-man group recently appointed to represent the air conditioning and refrigeration industry.

The report suggests granting an A-3 blanket rating so the industry may obtain materials for "essential" uses of air conditioning and refrigeration equipment, and advises a 35 to 50% curtailment of production by eliminating equipment for "non-essential" civilian uses.

### SUBCOMMITTEE NO. 4

(PRIORITIES, RATINGS, AND ALLOCATIONS)

Appointed by

OFFICE OF PRODUCTION MANAGEMENT

To Represent the

AIR CONDITIONING AND REFRIGERATION INDUSTRY

Washington, D. C.  
Oct. 22, 1941

To Members of the Industry:

Herewith a copy of the report to which you contributed statistical data and which the Committee, on behalf of the Air Conditioning and Refrigeration industry, has presented to the Office of Production Management.

In the preparation of this report, the Committee made every effort to present a fair and realistic appraisal on the basis of the facts available. The consensus of the Committee is represented in the conclusions reached and the statements made. While not all members of the industry may agree with some parts of the report, we are confident that you will realize that our task was not easy. Each member of the industry will undoubtedly suffer in some way. However, it is certainly better for each of us to be hurt a bit than for us all to be crippled beyond recovery—in which event we could neither do our direct defense job nor take care of really essential civilian uses.

### OPM Subcommittee No. 4

Air Conditioning and Refrigeration Industry  
(Industrial and Commercial)

James A. Bentley	L. C. Love
W. C. Allen	P. A. McKittrick
F. H. Faust	R. H. Pearse
C. V. Hill, Jr.	A. B. Schellenberg
M. W. Knight	

Office of Production Management  
New Social Security Building  
Washington D. C.  
Gentlemen:

We herewith present a program for a curtailment of between 35% and 50% in the total production of the air conditioning and refrigeration industry, by eliminating non-essential civilian uses.

Already our effective part in the Defense Program is being seriously hampered by the inability of our industry (industrial and commercial) to obtain necessary materials. We shall briefly explain why and offer constructive suggestions for your consideration.

Refrigeration is the process of lowering the temperature of a substance by mechanical, chemical, or physical means.

Air conditioning is the process of controlling the conditions of air as regards temperature, humidity, circulation, ventilation, and cleanliness. In summer, this includes refrigeration to reduce temperature and to reduce the moisture content of the air. In winter, it includes heating to increase temperature and humidifying to increase the moisture content of the air.

The industrial and commercial air conditioning and refrigeration industry (excluding domestic refrigerators) may be grouped into three broad divisions:

(a) Refrigerating and air conditioning machinery.

(b) Fixtures (cabinets, cases, and other fixtures).

(c) Accessories and parts.

The above will hereinafter be referred to as the "AC&R industry."

The undersigned committee has been selected by the OPM as representative of the entire AC&R industry, including the remote branches. This committee includes responsible members of all three divisions; it enjoys the confidence of all branches and has the right to speak on their problems. Evidence of this fact is the vital and not-previously-available information supplied, at the request of this committee, for 163 companies, large and small, representing practically 100% of the AC&R industry (Appendix I).

The size of our industry and the extent to which it affects almost all other industries, as summarized in Appendices I and II, will no doubt surprise those who have not previously had occasion to be informed.

The AC&R industry is now doing an average of 39.9% defense work using our normal line of products. A few examples are: industrial air conditioning for production of munitions, vital chemicals, synthetic materials, control of atmospheric conditions in producing precision instruments, engines, etc.; refrigera-

tion for naval and other ships, cantonments, etc. (Appendix III gives more detail.)

In addition, those of the companies in our industry which have suitable facilities have taken substantial contracts for special defense work such as artillery pieces, gun mounts, machine guns, field kitchens, sheet metal work, and numerous other items.

The AC&R industry produces machinery, parts, fixtures, and accessories for applications ranging from large installations involving thousands of horsepower, all the way down to small machines of fractional horsepower. All sizes and types have some applications for defense requirements. This large range of types and sizes naturally involves production facilities of great variety.

The AC&R industry is thought of at times, by some people, as being largely concerned with producing

equipment of the non-essential—or even luxury—class, easily done without in times such as the present. Only to a small extent is this true, because by far the larger part of the industry's normal peacetime production is devoted to essential uses for the basic life of the country. In wartime these essential civilian uses are the foundation for the Defense Program itself. For example: Refrigeration is essential for the processing, transportation, and distribution of foodstuffs, providing palatable drinking water in hospitals and factories, producing synthetic rubber, etc.; air conditioning increases the quantity and quality of blast furnace iron production and is essential for processing textiles, chemicals, certain medicines, etc. (Appendix III gives more detail.)

Although it is true that years ago this country thrived without the benefit of mechanical refrigeration

and air conditioning, today the great urban concentration of people and modern production methods have developed ways of living and processes of manufacturing which are dependent upon refrigeration and air conditioning.

Many defense plants have been built, and many more are in process of construction, at points where there has been little population in the past. Housing is being provided by governmental and other agencies; but to serve these new concentrations of people, stores and markets must follow and refrigerating and air conditioning equipment must be made available. If proper living facilities are not provided, population shifts are difficult, costly, and delayed. Equipment for such installations is of the same importance to national defense as equipment for the training camps, which now carries

(Continued on Page 6, Column 3)



## Nothing Like Those A-B Controls for Maintenance-free Service



Take it from me . . . Allen-Bradley starters have revolutionized our old ideas about what to expect from motor starters. They have double break, silver alloy contacts which never need any attention.

What's more—there are no pivots to rust or bearings to stick. There are no flexible jumpers to break. We just install Allen-Bradley controls . . . and forget 'em.

Those overload relays must be good, too, because we've never had any motors go bad. Another thing—those roomy cabinets are easy to wire and the white interiors are a mighty big help in dark locations.

I'm not kidding when I say—Nothing like 'em for trouble-free service. So specify Allen-Bradley . . . and be safe.

Allen-Bradley  
Company



1313 S. First St.  
Milwaukee

## ALLEN-BRADLEY

### SOLENOID MOTOR CONTROL

For  
Timely Helpful  
Information



**Artic**  
(DU PONT METHYL CHLORIDE)

# SERVICE NEWS

It's Free! MAIL COUPON TODAY

For information about nearest source of supply, write to  
THE R. & H. CHEMICALS DEPARTMENT  
E. I. DU PONT DE NEMOURS & COMPANY (INC.)  
Wilmington, Delaware  
Or National Ammonia Division  
Frankford P. O., Philadelphia, Pa.

Please send me the current issue of "ARTIC" Service News and put my name on the mailing list to receive future issues.

Name .....

Company .....

Address .....

City .....

State .....



## Appendix I Statistical Information

<b>I Persons employed at Aug. 31, 1941</b>	
(a) Factory and office employees.....	34,825
(b) Field personnel: engineering, construction, service, sales .....	86,365
(c) Secondary employment required to provide for item V estimated as....	42,000
(d) Approximate total employment....	(persons) 163,190
<b>II (a) Annual payroll for I(a) .....\$ 58,227,666</b>	
(b) Annual payroll for I(b) .....	140,315,650
(c) Annual payroll for I(c) estimated as	58,800,000
(d) Approximate total payroll .....	\$257,343,316
<b>III (a) Manufacturers' total orders booked, 12 months ending Aug. 31, 1941....\$202,784,164</b>	
<b>Note:</b> This represents only the manufacturers' selling price of factory products, with the exception of certain complete installations made by some manufacturers.	
(b) Additional costs, including local labor, locally purchased materials, freight, etc., and installers' profit, not reflected in III(a) or V; estimated at .....	364,176,246
(c) Total installed cost to users for 12 months ending Aug. 31, 1941, estimated at .....	\$566,960,410
<b>IV (a) Total manufacturers' unfilled orders at Aug. 31, 1941 .....</b>	
(b) Percentage of (a) covered by DEFENSE ORDERS .....	\$ 63,011,301 39.0%
<b>V Total purchases by manufacturers from others of raw materials, fabricated and semi-fabricated parts, for 12 months ending Aug. 31, 1941.....</b>	
	\$ 94,962,815
<b>VI Floor space occupied .....</b>	
	(sq. ft.) 15,350,134
<b>VII Quantities of principal materials used during 12 months ending Aug. 31, 1941:</b>	
(a) Steel .....	(tons) 102,457
(b) Iron .....	(tons) 42,567
(c) Copper and copper alloys .....	(tons) 14,153
(d) Brass .....	(tons) 6,310
(e) Aluminum .....	(tons) 1,671
(f) Nickel and nickel alloys .....	(tons) 1,193
(g) Lead .....	(tons) 847
(h) Zinc .....	(tons) 794
(i) Tin .....	(tons) 783

**Note:** This information has been compiled from confidential data supplied for 163 companies. It covers practically all companies, both large and small, in all branches of the air conditioning and refrigeration industry (commercial and industrial). Returns were received from all questionnaires sent out, with only two unimportant exceptions. It may be conservatively stated that the figures are better than 98% complete. The figures are factual with the exception of those stated as estimated. Such estimates as have been made are conservative.

## Refrigeration Vital To America's Health, OPM Committee Says

(Continued from Page 5, Column 5)

preference ratings. To quote from a letter from the head of a large dairy-products company:

"The importance of milk in the diet of both the civilian and military population of this Country engaged in all-out defense effort is being repeatedly emphasized by Government sources. We are supplying not only workers in civilian industries but camps of the U. S. armed forces with large quantities of fluid milk. We are receiving increasingly large orders for deliveries of evaporated and dried milk to United States and British Governmental agencies. However, in the face of this increase in demands on our productive capacity, we are now encountering difficulties in obtaining refrigerating machinery because of the priority situation with respect to many of the materials necessary for the fabrication of this equipment."

### IN SMALL CITIES

A large number of AC&R factories are situated in small cities or towns, and a substantial proportion of the residents of such communities directly or indirectly earn their livelihood from these factories. A major portion of the workers employed in manufacturing, installing, and servicing the products of our industry are highly trained specialists in their particular field.

We now have no means of obtaining quantities of materials, such as copper and steel, needed for the essential civilian uses. Members of our industry have been exerting considerable ingenuity toward developing substitutes for the scarcer materials. Efforts in this direction will continue; however, technical considerations definitely limit the extent of such substitutions.

We do not claim that all uses of our products are necessary during wartime, and we feel that unnecessary uses should be curtailed. We want to be realistic; we have voluntarily made sacrifices and will gladly make further sacrifices where advantageous to our country. However, we maintain that the best interest of the Defense Program, and the basic life of the country, will be served by enabling us to obtain needed materials for essential uses.

### 'EMERGENCY' ORDERS

The requirements of the Navy, Army, Maritime Commission, and other governmental agencies for our industry's products will continue to be not only of very large volume but also of the greatest urgency as to speed of production and delivery. Unfortunately, we are able to anticipate only a small part of this need by building equipment in advance, because it is not possible for the

## Appendix II (a) Refrigerating Equipment

### ESSENTIAL CIVILIAN USES

**CHEMICALS (Mfg. Processes\*)**  
**DRUGS AND PHARMACEUTICALS (Mfg. Processes\*)**  
**DRY ICE (Mfg. Processes\*)**  
**EXPLOSIVES (Mfg. Processes\*)**  
**FOODSTUFFS**  
Processing\* of Foodstuffs  
Meat and Meat Products Packing or Processing\*  
Dairy Products Processing\*  
Vegetable and Fruit Processing\*  
Baking Processing\*  
Miscellaneous Foods Processing\*  
Quick Freezing  
Transportation of Foodstuffs  
Railroad Car Refrigeration  
Truck Refrigeration  
Ocean and Inland Ships Refrigeration  
Precooling  
Distribution of Foodstuffs  
Preservation, Storage, and Sanitation Equipment for  
Storage Warehouses  
Wholesale Depots  
Retail Stores  
Eating Places  
Locker Storage  
**HOSPITALS AND INSTITUTIONS**  
Food and Medicine Preservation

### HOUSING

Commercial  
Stores  
Hotels  
Industrial  
Factories  
Offices  
Laboratories  
Institutions  
Hospitals

### ICE

Production  
Storage

### LABORATORIES

### MORTUARIES

### PETROLEUM PRODUCTS (Processing\*)

### RUBBER AND RUBBER PRODUCTS (Mfg. Processes\*)

### SYNTHETIC PRODUCTS

Plastics  
Synthetic Rubber  
Unclassified

### TRANSPORTATION

Railroad Cars  
Ships and Boats

### LESS ESSENTIAL CIVILIAN USES

**FOODSTUFFS**  
Processing\* of Foodstuffs  
Ice Cream (Production and Distribution)  
Beverages  
Candy Processing\*

### HOUSING

Public

Public Buildings  
Unclassified

Institutions  
Educational  
Unclassified

### PHOTOGRAPHIC MATERIALS (Mfg. Processes\*)

Film

### NON-ESSENTIAL USES

**FLOWERS (Growing and Sale of)**  
**FURS (Storage)**

### HOUSING

Residential  
Apartments

**MALT BEVERAGES (Beer, Ale, etc.)**

### RECREATION

Bars  
Soda Fountains  
Clubs  
Skating Rinks  
Unclassified

\* "Processes" or "Processing" denotes operations for which equipment is essential for purposes of controlling chemical, biological, or other reactions of given hygroscopic and non-hygroscopic substances, mate-

rials, or products. Whenever improved efficiency, health, and comfort of workers also results, this is purely an incidental additional advantage.

above-mentioned departments of the government to give us, in advance, the detailed information that is essential before we can place much of this highly technical equipment in production. The result is that we are given information and orders in spasmodic rushes—and because many vitally important things hinge on the speed of production and delivery we are able to attain, it is necessary for us to throw our organizations and facilities, overnight, into each emer-

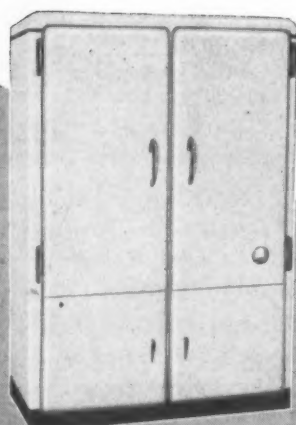
gency. It is impossible to expand and contract at will, industrial organizations such as those represented in the AC&R industry which are, in the main, composed of highly skilled engineers and mechanics of many years' specialized experience. The same statement applies, of course, to special tools and manufacturing facilities.

Our production of equipment for (Continued on Page 7, Column 3)



### MOST COMPLETE 'REACH-IN' LINE ON THE MARKET!

Here's the widest selection of sizes and styles the industry affords—a model for every need. Distinguished by superb styling, fine construction and outstanding value.



Model 120 (above) has 12 cu. ft. capacity—the newest member of the "Midwest 'Reach-in'" family.

Model 700 (right) another new model has 71.5 cu. ft. capacity. In between is a full range of sizes and equipment. Write for full details now.



★ ★

**Midwest**

MFG. COMPANY  
Galesburg, Ill., U.S.A.

Export Division, 176 W. Adams St., Chicago  
New York Office, 1775 Broadway

### HUSSEY PURE LAKE COPPER • HUSSEY PURE LAKE COPPER

*"It's the Best you can use  
and Easy to Work"*

**HUSSEY PURE  
LAKE  
COPPER**

Whatever you demand of copper—easy workability... corrosion resistance... forming qualities... easy soldering, brazing, welding—you'll find them all in Hussey Copper. It's Pure Lake Copper—the best you can use. Call your local Hussey warehouse for assistance with your copper problems.



**HUSSEY**

**C. G. HUSSEY & COMPANY**  
(Division of Copper Range Co., Miners and Refiners of Pure Lake Copper)  
Rolling Mills and General Offices: PITTSBURGH, PA.

WAREHOUSES IN CHICAGO, CINCINNATI,  
CLEVELAND, PITTSBURGH, NEW YORK,  
PHILADELPHIA and ST. LOUIS



## Appendix II (b) Air Conditioning Equipment

### ESSENTIAL CIVILIAN USES

#### CHEMICALS (Mfg. Processes\*)

#### COMMUNICATIONS

Telephone Apparatus  
(Mfg. Processes\*)  
Telegraph Apparatus  
(Mfg. Processes\*)  
Telephone Exchanges  
(Atmospheric Control)

#### DRUGS AND PHARMACEUTICALS (Mfg. Processes\*)

#### ELECTRIC POWER

(Mfg. Processes\* for Electric  
Motors and Other Electrical  
Equipment)

#### EXPLOSIVES (Mfg. Processes\*)

#### FOODSTUFFS

Processing\* of Foodstuffs  
Flour Processing\*  
Baking Processing\*  
Cereals Processing\*  
Miscellaneous Foods Processing\*

#### Distribution of Foodstuffs

Preservation, Storage, and  
Sanitation Equipment for  
Retail Stores  
Eating Places

#### HOSPITALS AND INSTITUTIONS

Control of Operating Room  
Atmospheric Conditions  
Control of Convalescing Space  
Atmospheric Conditions

#### HOUSING

Industrial  
Factories  
Drafting Rooms  
Laboratories

#### Institutions

Hospitals

#### LABORATORIES

#### MACHINES AND MACHINE

TOOLS (Production of)  
Abrasives Processing\*  
Precision and Tolerances of  
Parts Control

#### METAL WORKING—FERROUS

#### METAL WORKING— NON-FERROUS

#### METALS

Mining  
Processing\*  
Iron and Steel Production  
(Blast Furnaces, etc.)

#### OPTICAL APPARATUS

(Processing\* of Lenses, etc.)

#### PRECISION INSTRUMENTS (Manufacturing Processes\*)

#### SYNTHETIC PRODUCTS

Plastics  
Unclassified

#### TEXTILES AND CLOTHING

(Manufacturing Processes\*)

#### Non-Synthetic

Yarn Spinning  
Fabric Weaving  
Garment Making  
Hosiery Making  
Parachute Making  
Other Fabric Production

#### Synthetic

Base Materials Manufacture  
Yarn Spinning  
Fabric Weaving  
Garment Making  
Parachute Making  
Other Fabric Production

#### TRANSPORTATION

Motors and Engines Production  
Airplane Production  
Truck Production  
Ships and Boats

### LESS ESSENTIAL CIVILIAN USES

#### COMMUNICATIONS

Radio Tubes and Apparatus  
(Mfg. Processes\*)  
Broadcasting Studios  
(Atmospheric Control)  
Printing and  
Publishing (Processing\*)

#### FOODSTUFFS

Processing\* of Foodstuffs  
Sugar  
Candy Processing\*

#### HOUSING

Commercial  
Stores  
Offices  
Hotels

#### Public

Auditoriums  
Public Buildings  
Unclassified

#### Institutions

Unclassified

#### LEATHER AND

LEATHER PRODUCTS

#### PAPER AND PAPER

PRODUCTS (Mfg. Processes\*)

#### PHOTOGRAPHIC MATERIALS

(Mfg. Processes\*)

Film

Cameras

#### TRANSPORTATION

Automobile Production

### NON-ESSENTIAL USES

#### BUILDING MATERIALS AND

SUPPLIES (Mfg. Processes\* for  
Cement, Ceramics, Glass,  
Lumber, etc.)

#### ELECTRICAL APPLIANCES (Mfg. Processes\*)

#### FLOWERS (Growing and Sale of)

#### HOUSING

Residential  
Homes

#### Apartments

Commercial  
Banks

#### RECREATION

Theaters  
Bars  
Clubs  
Unclassified

#### TOBACCO PRODUCTS

(Mfg. Processes\*)

\*"Processes" or "Processing" denotes operations for which equipment is essential for purposes of controlling chemical, biological, or other reactions of given hygroscopic and non-hygroscopic substances, mate-

rials, or products. Whenever improved efficiency, health, and comfort of workers also results, this is purely an incidental additional advantage.

## Committee Lists Essential, Non-Essential Uses of Refrigeration & Air Conditioning

(Continued from Page 6, Column 5)  
essential civilian uses would have the further advantage of enabling us to retain our skilled and technically trained personnel; thus we would be able to do a better job on our direct defense work.

Now, however, we are faced with the paradox of the government's making it impossible for us to do the very thing which the government itself most desires and needs us to do.

The Office of Production Management has invited us to make suggestions. Therefore, we propose the following simple plan, which should be effective in minimizing the use of critical materials and yet be relatively easy to administer:

### USES LISTED

Appendix II lists uses of refrigerating and air conditioning equipment for each basic industry of the country. Appendix III explains, in more detail, for just what purpose the equipment is used. Since there are so many different applications of air conditioning and refrigeration (industrial and commercial), there are necessarily many sizes and types of standard equipment produced, as well as special designs to meet particular needs. Because of the varying demand for any one size for essential and non-essential uses, it would be impracticable to curtail production by means of a quota based

on sizes or types. It should be relatively easy, however, to decide that certain basic industries which require air conditioning or refrigeration are essential or unessential in the present emergency, and then to determine that the function of air conditioning or refrigeration is either necessary or not necessary for the particular industry. In Appendix II, we have indicated our objective opinion as to the degree of essentiality of each use.

(a) The Office of Production Management would determine those civilian uses of air conditioning and refrigeration which are "essential," "less essential," and "non-essential." The method of making this determination might be along the lines which we have suggested in Appendix II.

(b) A blanket rating (A-3 is suggested) that is high enough to permit the obtaining of materials, such as copper and steel, would be assigned to our industry for the "essential" civilian uses.

(c) A blanket rating of A-3 might also be assigned for the obtaining of materials to anticipate production requirements for "defense uses," limited simply to the minimum inventories needed for production schedules. This would eliminate the requirement of the complicated PD-25 defense supplies rating, which has proved almost impracticable for our industry. The production of equipment for direct defense uses and the production of equipment for

essential civilian uses should proceed together, in order that production schedules may be arranged efficiently. The manufacturer should be able to obtain materials to anticipate production requirements for both, under the same supplies rating plan. A manufacturer cannot operate effectively unless he knows how much material he is going to get and when he will be able to get it.

(d) A lower blanket rating might be assigned to enable the obtaining of more limited quantities of materials for those uses determined as "less essential" civilian uses.

### WOULD ORDER AHEAD

(e) A preference rating order would be issued for the granting of preference ratings needed to obtain supplies to anticipate production requirements for the filling of orders for the "essential" and "less essential" civilian uses and "definite uses."

(f) For those uses determined as "non-essential," as suggested in Appendix II, no preference rating would be given.

(g) Our industry would undertake the responsibility of closely supervising and of policing the uses of such materials, in conformity with the law. Further, it would, by affidavit, guarantee that materials obtained under the respective preference ratings would be applied only to the authorized uses.

Because of the great variation of equipment and types of applications covered by our industry, any curtailment formula for our industry would, at best, be extremely complicated and probably impracticable. We believe that the above program would

(Concluded on Page 8, Column 1)

## Wherever You Use Refrigeration— There's the Correct CENTURY MOTOR For Each Different Job

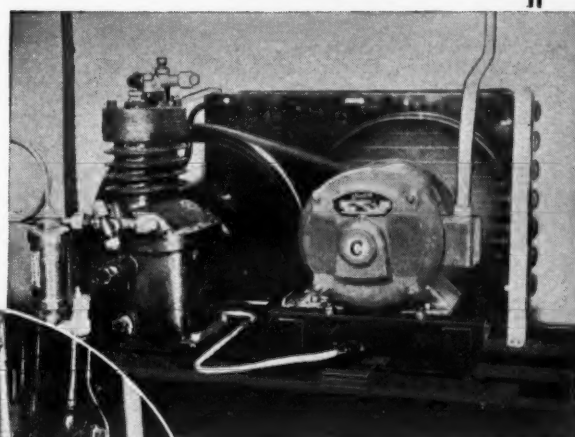
### For:

- Air Conditioning
- Commercial Refrigeration
- Food Preservation
- Quick Freezing
- Humidity Control
- Industrial Processing

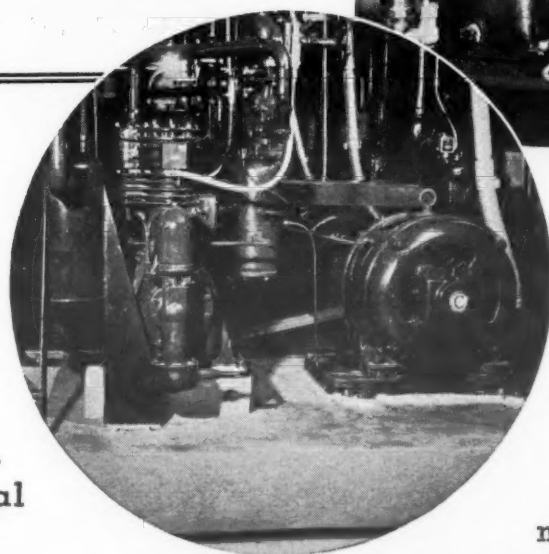
Just as the uses and needs of mechanical refrigeration are many and varied, so are the many types and sizes of Century Motors, both fractional and integral horsepower.

Every application of refrigeration, air cooling or fluid pumping provides an opportunity for improved performance through the selection of electric motor drives designed for these specific jobs.

Whatever your motor requirements may be, there's the right Century single phase, polyphase, or direct current motor to meet the requirements of the job and the surroundings in which it must operate. Remember, too, that every Century fractional



Above, Century 1/2 Horsepower direct current motor.



At left, Century 60 Horsepower squirrel cage alternating current motor.

horsepower motor is built to the same high electrical and mechanical standards as Century integral size industrial motors.

You'll find it helpful, and profitable, to let your nearest Century Motor Specialist consult with you on any problem of proper motor selection. His specialized knowledge and Century's years of close association with the air conditioning and refrigeration industries will prove valuable to you, too. He's always at your service—call him in.

### CENTURY ELECTRIC COMPANY

1806 Pine Street St. Louis, Missouri

Offices and Stock Points in Principal Cities



One of the Largest Exclusive Motor and Generator Manufacturers in the World

**Refrigeration COPPER TUBING--**

THESE are fast moving days and you'll be glad to GET PENN SERVICE AND EXCEPTIONAL QUALITY on SUPERIOR Copper Tubing.

**ALL SIZES IN STOCK**

**PENN BRASS & COPPER CO., INC.**  
POWELL AVE., ERIE, PENNA.



## Slash In Production Would Cut Use of Materials 20%

(Concluded from Page 7, Column 5)  
obviate the need for a curtailment formula.

It is estimated that such a program would result in a curtailment of between 35% and 50% in the total production of our industry for civilian uses. Based on the production of our industry for the 12 months ending Aug. 31, 1941, and allowing for increased demands for "defense uses," there should be a net reduction of at least 20% in raw materials required.

We are certain that we can, effectively and legally, control the use of our products, and we will gladly provide any reasonable guarantees as to usage which may be required.

Copies of this letter are being sent to those in OPM with whom we have discussed various aspects of our industry problem.

We respectfully ask for action. What we need more than anything else is a tangible program which will enable us to keep our skilled personnel together and allow us to produce equipment for essential civilian and defense requirements.

Very truly yours,

OPM Subcommittee No. 4

Air Conditioning and  
Refrigeration Industry  
(Industrial and Commercial)

## Appendix III

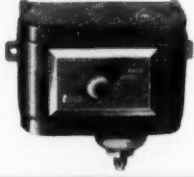
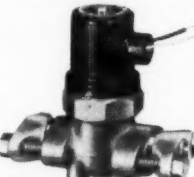


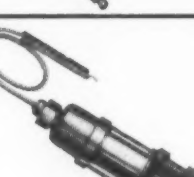
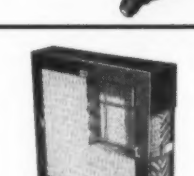

### TYPICAL INDUSTRIES INVOLVED IN DEFENSE OR ESSENTIAL CIVILIAN REQUIREMENTS FOR WHICH REFRIGERATING AND AIR CONDITIONING EQUIPMENT IS NECESSARY FOR THE PURPOSES SHOWN (Partial List)

Industry	Process Involved	Essential for
Abrasives	Processing and drying of carborundum wheels and paper.	Uniformity of product. Production scheduling.
Airplanes and Engines	Rivet temperature control. Engine and parts machining. Propeller processing. Paint and dope application. Assembly.	Controlled precision and uniform tolerances. Elimination of effects of humidity and temperature variations in paint and dope processes, and in laboratories and test rooms.
Ammunitions	Powder and explosives processing. Ballistics, detonators, fuses, ignitor packing, pom-pom mix. Grinding, priming, pressing, solvent reclaim. Tetryl blending and pressing.	Fixing rate of burning of powder. Accurate weighing. Precision of parts. Static and humidity control. Safety from explosions.
Bakeries	Flour storage. Fermenting. Dough mix. Proofing. Cooling.	Mould prevention. Control of fermentation. Uniform quantity production. Sanitation. Storage.
Cereals, Foodstuffs	Processes too numerous for listing.	Spoilage prevention. Uniform quantity production. Sanitation.
Chemicals	Processes too numerous for listing.	Control of rates and limits of chemical reactions. Quality and purity control.

Industry	Process Involved	Essential for
Dairy Products	Processes too numerous for listing.	Uniform product, sanitation, preservation as otherwise impossible.
Electrical Products	Processing of motors, controls, radio parts, telephone equipment.	Precision, tolerance control, dust prevention, prevention of damage by humidity and perspiration action.
Films	Coating, drying, cutting, and packing.	Uniform pliability, thickness and coating. Scheduled quantity production, and safety from fire.
Food Preservation		Impossible otherwise to prevent spoilage.
Glass	Intermediate steps in processing.	Uniform quantity production with controlled schedules. Imperative in making non-shatterable glass.
Hosiery	All stages of processing.	Static prevention, uniform product, and production rate.
Instruments Watches, Navigation and Fire Controls, etc.	Tool processing. Parts processing. Gauging.	Precision, condensation prevention, tolerance control, dust elimination, uniform quantity production.
Laboratories	Industrial testing. Animal assay. Growth and sprouting. Crystallization.	Without controlled conditions to eliminate effects of variations, much of this work would be impossible.
Linoleum (Battleship)	Intermediate steps in processing.	Uniform product and schedules.
Machine Shops	Precision rooms.	Close tolerances, constant measurements.
Mines	Mining areas.	Maximum production.
Meats, Lards, etc.	Processes too numerous for listing.	Mould prevention, sanitation, ingredient control, curing time control, uniform quantity production, storage, preparation, etc., as otherwise impossible.
Opticals, Sights, etc.	Lens development. Lens assembly. Cementing. Precision room. Experimental room.	Precision, tolerances, mar prevention, condensation prevention, etc., as otherwise impossible.
Pharmaceuticals	Processes too numerous for listing.	Uniform quantity production of many drugs would be otherwise impossible.
Petroleum Products	Various stages of processing. Testing laboratories.	Uniform quantity production. Octane requirements.
Plastics	Intermediate stages of processing.	Reaction control, uniform production.
Paints and Lacquers	Pigment processing, etc.	Control of air moisture needs, drying rate, etc.
Paper	Processing, testing, storing.	Control of strength, sizing, and moisture content.
Printing (Maps, etc.)	Processing and storage.	Alignment control, static elimination, uniform sizing, production rate.
Rubber (See Synthetic Products for Synthetic Rubber)	Drying and curing. Latex processing. Roller cooling.	Process, schedule, and quantity control.
Steel	In blast furnaces.	Increased quality and quantity of production of iron with lower coke consumption.
Synthetic Products: Rubber, Nylon, Rayon, etc.	Processes too numerous for listing.	These products could not otherwise be uniformly produced at all in quantity.
Telephone Exchanges	Apparatus room. Switchboards.	Control of static, prevention of sparking, elimination of corrosives in air.
Textiles	Spinning. Weaving.	Static control, uniform texture and quantity production, otherwise impossible.
Transportation (Perishables)		Long hauls otherwise impossible.

# DETROIT

## Controls and Equipment

WHAT IT IS	WHERE IT IS USED	WHAT IT DOES
<b>No. 450</b> Series Controls for Refrigeration 	On commercial refrigeration and air conditioning systems.	Controls operation of compressor in accordance with changes in temperature, pressure or vacuum—available with or without high pressure cut-out.
<b>No. 686</b> Solenoid Valve (Large Capacity) 	Large capacity valve for refrigeration, liquid or suction lines—also water supply lines.	Controls flow of refrigerant or water in response to pressure, temperature or humidity control.
<b>No. 897</b> Dura-ram Thermostatic Expansion Valve 	Used in the liquid line just ahead of the evaporator on refrigeration system.	Keeps the evaporator completely refrigerated and prevents motor overload. Capacities to 1 ton. Automatic type valves also available.
<b>No. 788</b> Dura-ram Thermostatic Expansion Valve 	Used in the liquid line to evaporator coil of refrigeration and air conditioning installations.	Keeps the coil completely refrigerated, avoids temperature lag, protects against motor overload when starting up a warm system. Capacities to 20 tons.
<b>No. 673</b> Thermostatic Expansion Valve 	In the liquid line to the evaporator coil of cooling and refrigeration installations.	Keeps the evaporator full of refrigerant at all times, avoids temperature lag and guards against motor overload. Capacities to 3 tons.
<b>Detrol</b> Air Filter 	Applicable to both summer and winter air conditioning systems.	Removes dust and pollen from intake air—retains its efficiency longer and has a very low air resistance with no spot clogging.
<b>No. 691</b> Differential Thermostat 	Used in low voltage circuit of summer air conditioning systems.	Automatically controls the operation of cooling unit to maintain a specified difference between indoor and outdoor temperatures—prevents "Over-cooling."

### DETROIT LUBRICATOR COMPANY

General Offices: DETROIT, MICHIGAN  
Canadian Representatives: RAILWAY AND  
ENGINEERING SPECIALTIES LIMITED



## SERVEL Interchangeability SOLVES YOUR PARTS PROBLEM

This \$10 kit gives you all the parts you need to render field service on all Servel models from 1/5 to 10 HP. Write for details: Servel, Inc., Electric Refrigeration & Air Conditioning Division, Evansville, Ind.



# Best Type of Motor For a Particular Application Is Determined Partly By Kind of Field Winding

## Direct Current Motors (Cont.)

**Editor's Note:** This is the third installment in a series of articles on electric motors written for the refrigeration and air conditioning service man. It is the aim of the author to give in simple terms a description of direct current, polyphase, and single-phase motors, and then discuss installation, maintenance, and servicing problems.

By R. A. Fuller,  
Industrial Engineering Dept.,  
General Electric Co.

### Field Windings

The field, or stationary part, of a direct current motor has an even number of poles. A field for a two pole motor is shown in Fig. 7. The path of the magnetism is represented by the dotted lines. Solid cast iron and steel may be used for these parts. The framework, on which the poles are mounted, is of heavy construction so that there will be sufficient iron to carry the magnetism.

The main field winding can be connected directly across the power supply as shown in Fig. 8. This is known as a shunt wound motor and the winding is called the shunt field. Such a motor has a rather constant speed with varying loads but tends to draw more starting current and have less starting torque (turning power) than the series motor.

The main field winding can be connected in series with the armature as shown in Fig. 9. This is known as a series motor and the winding as a series field. This design has the lowest starting current and the highest starting torque obtainable but the speed varies considerably as the load changes. In fact, with no load, a series motor tends to run so fast that the commutator and winding are apt to be thrown off the armature by centrifugal force.

It is most common, in compressor drives, to use compound wound motors. These contain both series and shunt fields as shown in Fig. 10. The two field windings are wound on the same poles so that the field magnetism obtained is the sum of the effects of the two windings. As a result the motor operation is a combination of some of the good characteristics from both types. Thus constant speed, low starting current, and high starting torque are obtained, in a single motor, to a marked degree.

Fig. 11 represents a four pole motor. An increase in the number of poles is a convenient method by which the designer can reduce the size of wire used on the armature and the amount of current handled by each brush. Generally the larger or slower direct current motors will tend to have more poles than those of the smaller horsepower or higher speed ratings. Incidentally, it will be noted that the motor tends to have the same number of brushes as it has main poles.

Fig. 7—Two Pole Field

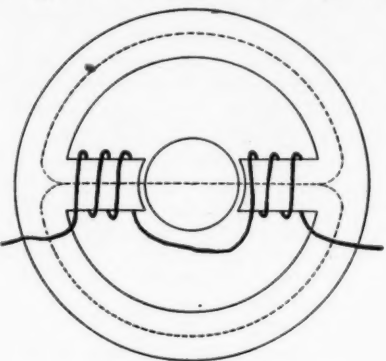


Fig. 7 shows a field for a two pole motor. Dotted lines represent the path of the magnetism.

Fig. 8—Shunt Winding

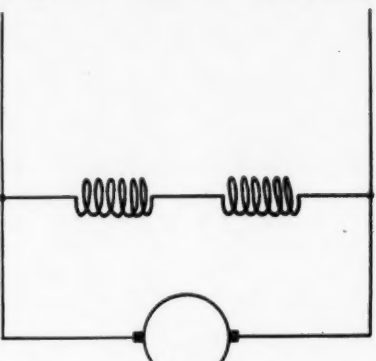


Fig. 8—Connecting the main field winding across the power line, as diagrammed above, creates a shunt wound motor.

Fig. 9—Series Winding

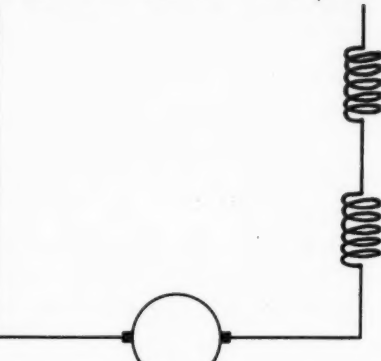


Fig. 9 represents a series wound motor, one in which the field is connected in series with the armature.

Fig. 10—Compound Winding

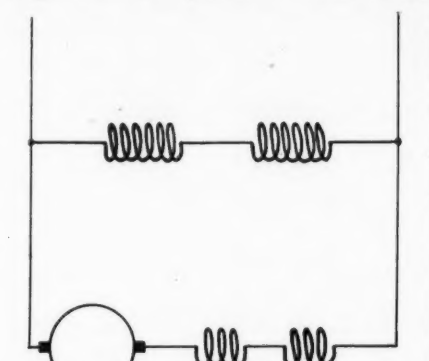


Fig. 10—Compound wound motors, represented above, are most commonly used in compressor drives.

Fig. 11—Four Pole Motor

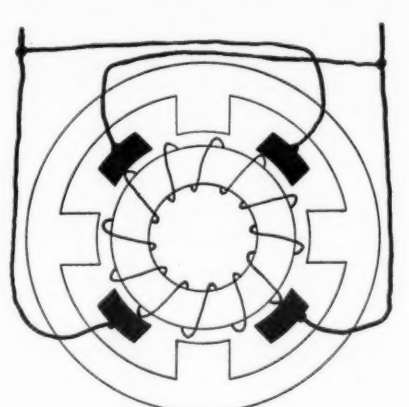


Fig. 11 diagrams a four pole motor. Increasing the number of poles reduces the size of wire on the armature and the amount of current handled by each brush.

Fig. 12—Interpole

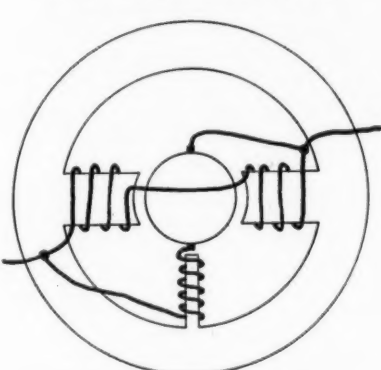


Fig. 12—A special interpole, located at lower center in the above diagram, is sometimes used to correct interference with field magnetism caused by magnetism created in the armature wires.

The current in the armature wires creates magnetism that disturbs the magnetism from the field. This results in an increase in sparking at the brushes. A special pole, called an interpole or commutating pole, is sometimes inserted between the main poles to correct this condition. The winding on the interpole, as shown in Fig. 12, is connected in series with the armature so that the corrective effect is proportional to the armature current.

## Williams Appointed S-W Pittsburgh Distributor

PITTSBURGH—J. A. Williams Co. has succeeded Brown-Dorrance Electric Co. as distributor of Stewart-Warner refrigerators in this area, reports Leroy L. Williams, president of the company.

Williams now handles Stewart-Warner refrigerators, Zenith radios, and ABC washers. Robert Quinn, vice president of Brown-Dorrance Electric Co., and several members of its sales department will become members of the Williams Co. staff.

## L. C. Wiswell Gives Up Chicago Dealership

CHICAGO—L. C. Wiswell, long-time major appliance distributor here who formerly handled the Leonard refrigerator line, has disposed of his business and is retiring to his ranch at Ocean Springs, Miss.

**BLOWER WHEELS**

**"HAVE CLARAGE MAKE THEM!"**

Every year we ship to builders of air conditioning units thousands upon thousands of Clarage Blower Wheels and Assemblies.

This smaller equipment is designed with the same skill characteristic of the larger Clarage apparatus—just as carefully fabricated and tested.

And we have sizes to meet ALL REQUIREMENTS—with slow speed operation insuring SILENT PERFORMANCE.

May we have your next inquiry?

**CLARAGE FAN COMPANY**  
KALAMAZOO, MICHIGAN  
Sales Offices in All Principal Cities

## GILMER BELTS pull money right into your cash register



**YOU'LL** make more money... and have more pleased customers... if you handle Gilmer V-belts.

Gilmer's pulling power makes them the belts that shut out kicks and comebacks... they sell well and stay sold. This is the ideal line for you to handle... Gilmer V-belts fit over 7800 models of electric refrigerators alone, as well as many other belt-driven appliances.

Ask your distributor about the Eye-ful Tower, the handy display of V-belts in the sizes usually asked for. With it comes the Handimeter for measuring belts in three seconds. It's an easy way of making \$15.40 clear profit.

**L. H. GILMER COMPANY**  
TACONY, PHILADELPHIA, PA.  
"The right V-belt for every purpose"

Have you our 1941 catalog? **FREE!**  
—"America's Belt Bible"—

**Thousands of WAGNER Motors**

ARE NOW GIVING DEPENDABLE SERVICE ON REFRIGERATING AND AIR CONDITIONING EQUIPMENT IN DEFENSE INDUSTRIES, ARMY CANTONMENTS, NAVAL STATIONS, ON SHIPS, ETC.

Our Country has sounded the call for equipment and machinery for national defense. Equipment manufacturers everywhere are answering that call—and refrigerating equipment manufacturers are no exception. Already thousands of refrigerating units are doing their part in the defense program—a large percentage of these units are powered by Wagner motors, and for good reasons, too. (1) Established reputation for efficiency and dependability, (2) complete line—the right motor for every type of equipment and all service conditions, (3) quick shipments to handle rush defense orders, (4) large plant capacity to handle any order, large or small, (5) 50 years manufacturing experience, (6) convenient service facilities through 25 branches... six good reasons why you should look to Wagner for motors for all your defense production.

**FOR QUICK DELIVERIES ON MOTORS FOR DEFENSE PRODUCTION SPECIFY WAGNER**

Type M, Shaded-Pole Fan Motors (1/2 to 1/30-hp)—ideally suited for fan and blower drives where the fans or blowers are mounted directly on the motor shaft.

Type RP, Squirrel-Cage (1/6 to 400-hp)—because of simple construction are low-priced, easily installed, and exceptionally sturdy and dependable.

Type RA, Repulsion-Start-Induction (1/8 to 15-hp)—the ideal motor for heavy duty applications such as compressors, pumps, mixers, etc.

Type RK, Capacitor-Start Induction-Run (1/8 to 3/4-hp).

**Wagner Electric Corporation**  
6400 Plymouth Avenue, Saint Louis, Mo., U.S.A.

**25 SALES AND SERVICE BRANCHES** Conveniently Located Throughout the Country.

Trained Sales-Engineers are always ready to assist you in selecting motors to meet your particular requirements.

**MOTORS • TRANSFORMERS • FANS • BRAKES**

**Ansul Twins ARE EASY TO CARRY WHEN THERE'S A SERVICE JOB TO DO**

Three cylinder sizes each for both Sulphur Dioxide and Methyl Chloride as especially designed for the convenience of the service man. Big enough to contain sufficient gas, small enough to be easily carried to a job, these medium-sized Ansul cylinders are handy, efficient, economical.

**ANSUL**  
SULPHUR DIOXIDE  
METHYL CHLORIDE  
Agents for Kinetic's "Freon-12"

Your nearby Ansul Jobber is always prepared to supply you with Ansul refrigerants in these sizes:

SO <sub>2</sub>	CH <sub>3</sub> Cl
25 lbs.	15 lbs.
70 lbs.	40 lbs.
100 lbs.	60 lbs.

**ANSUL CHEMICAL COMPANY • MARINETTE, WISCONSIN**



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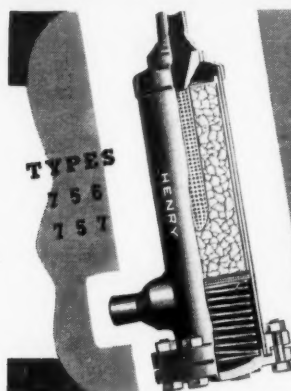


**WHEN YOU ORDER YOUR  
AIR CONDITIONING  
AND REFRIGERATION  
SUPPLIES AND EQUIPMENT  
BY MAIL YOU GET THE SAME  
QUICK, CAREFUL SERVICE  
THAT YOU RECEIVE "IN  
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**THE HARRY ALTER CO.**  
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3 CHICAGO BRANCHES, NORTH, WEST, SOUTH

NEW YORK  
PHILADELPHIA  
BRONX  
JAMAICA

NEWARK  
DETROIT  
CLEVELAND  
ST. LOUIS



**HENRY**  
**CARTRIDGE DEHYDRATOR**  
**With Side Outlet and Dispersion Tube**

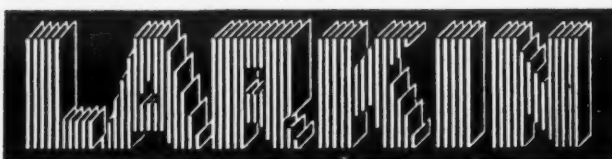
This exceptional design permits easy removal and replacement of cartridge without loosening end connections. Dispersion tube for increasing drying efficiency and minimizing pressure drop is incorporated as integral part of refill cartridge.

Ask your jobber for it.

FILLED WITH SILICA GEL OR ACTIVATED ALUMINA  
**HENRY VALVE CO.** 1001-19 N. SPAULDING AVE.  
CHICAGO, ILLINOIS

**Originators of The Cross Fin Coil**

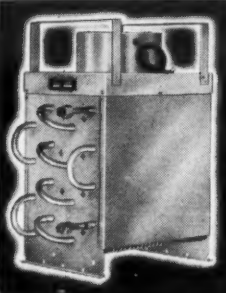
**Over-Draft HUMI-TEMP For Good Air Circulation**



**Save Space with  
OVER-DRAFT  
HUMI-TEMP**

For dry storage beverage coolers, grocery or reach-in refrigerators, this over-draft unit has proved a "natural" at saving space and operating costs. See your jobber or write direct today.

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**SUREDRY DEHYDRATORS**

Sealed at factory to insure "factory fresh" dehydration at installation time. Silica Gel fill does not cake. Filter gives five times the filtering area of screen wire. One piece copper shell. Filters are securely

anchored to shell. Made in non-rechargeable and rechargeable units. No pressure drop—full filtering effect. The last word in dehydrating efficiency. Fresh up to the instant of usage.

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Pacific Coast: Van D. Clithier, 1015 E. 16th, Los Angeles

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ought to  
have the  
new*  
**IMPERIAL  
INNER  
AND OUTER  
REAMER**

• A convenient new tool which makes possible a rapid and efficient reaming job on both the inside and the outside edges of copper, brass or aluminum tubing.

Tubing is introduced from one end of tool for inside reaming, and from the other end for outside reaming. The tool cuts in either direction and is self-centering. It has three hardened, hollow ground tool steel cutters. The cutters are protected against damage when not in use, by outside shell of tool. Body is knurled for easy handling. Handles all sizes of tubing from 3/16" O.D. to 1 1/2" O.D.

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**IMPERIAL**  
VALVES • FITTINGS • TOOLS • STRAINERS  
DEHYDRATORS • CHARGING LINES • FLOATS

No. 208-F Inner and  
Outer Reamer  
Price, each, \$1.20



**ORDER FROM  
YOUR JOBBER**

## \$12 Million Gun Order Goes To Washer Firms

WASHINGTON, D. C. — First industry-wide pooling of productive facilities for defense has resulted in a \$12,000,000 War Department order to three washing machine manufacturers for .90-caliber anti-aircraft gun mounts under terms of an industry-government program under which the 31 other companies in the washer industry will share in the work to prevent dislocation of employees due to curtailed production.

The \$12,000,000 anti-aircraft gun mount contract was awarded to Nineteen Hundred Corp., St. Joseph, Mich.; Apex Electrical Mfg. Co., Cleveland; and Easy Washing Machine Corp., Syracuse, N. Y., all three to place sub-contracts with 31 others in the field.

## OPM Limits Use of Cork Insulation Board

WASHINGTON, D. C. — Because of continuing shortages of cork, limitations were placed around deliveries of insulation board containing cork, in a recent order issued by Donald M. Nelson, Director of Priorities. Only defense orders, and orders for food preservation purposes, may be filled with such board.

## CLASSIFIED ADVERTISING

RATES for "Positions Wanted," 5¢ per word; minimum charge, \$2.50. Three consecutive insertions, 12 1/2¢ per word; minimum charge \$6.25.

RATES for all other classifications, 10¢ per word, minimum charge, \$5.00 per insertion. Three consecutive insertions, 25¢ per word, minimum charge, \$12.50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count.

PAYMENT in advance is required for advertising in this column.

### FRANCHISES WANTED

THIS ADVERTISEMENT is directed to manufacturers of commercial refrigeration and air conditioning equipment having faith and confidence in the future of our country. This advertiser fully appreciates that many refrigeration manufacturers are booked to capacity and are not eager to commit themselves to substantial additional business. Nevertheless, to manufacturers who ARE thinking of the future, we say, "Think of the future NOW!" To these manufacturers who are interested in SALES, we offer the facilities and services of a wide awake, hard hitting, financially responsible sales organization, equipped with a splendid engineering, installation and service department. Showrooms located in central Manhattan, excellent warehouse accommodations, and above all, an organization headed by an individual who has been successfully associated with the refrigeration industry for the past twenty years. Prompt replies will be appreciated. Box 1369, Air Conditioning & Refrigeration News.

### EQUIPMENT FOR SALE

SURPLUS STOCK brand new Westinghouse Low-sides, complete with coils, valves, fans, manual controls, etc. 1 to 2 ton capacity. AC models \$37.50 each. DC models (easily converted to AC) \$24.50 each. Complete stock "as is" or rebuilt refrigerators, also Grunows. Write for prices. ASSOCIATED REFRIGERATOR PLANT, 3028 W. Hunting Park Ave., Philadelphia, Pa.

### PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. VAN DEVENTER (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

## New Plastic Tubing May Serve as Substitute For Copper Tubing

MIDLAND, Mich. — Flexible, semi-transparent tubing of thermoplastic "Saran" manufactured by Dow Chemical Co. is being suggested by that company as a possible substitute for copper and other metal tubings.

Particularly timely now that the government has strictly curtailed civilian use of copper and is beginning to tighten the clamps on other metals, Saran tubing has been developed through years of research and has been tested for replacement of such strategic materials as nickel, stainless steel, and ceramics, in addition to copper.

This tubing is claimed to be resistant to moisture, brines, solvents, acids, and alkalis, but its strength and resistance are said to be somewhat reduced at temperatures of 250 to 275° F. It is claimed to have withstood a pressure of 1,500 pounds a square inch, and in fatigue tests to have indicated a superiority to copper where excessive vibration is encountered.

Made in sizes of 1/8 to 5/16-inch o.d., with wall thicknesses from .30 to .62 of an inch, Saran tubing may be

## Aluminum Substitute Is Not For Appliances

DETROIT — The newly developed "substitute" for aluminum recently announced by U. S. Rubber Co. is purely structural material that can be used for airplane and truck bodies, but has no application in the manufacture of household appliances and other non-defense articles in which aluminum was used before it was placed under priorities, the research office of the company here reports.

The new substitute, it was said, is a textile and not a metallic substance. Detailed information as to the composition of the material and its possible applications will be announced shortly.

## G-E Refrigerator Pace Holds Despite U. S. Work

BRIDGEPORT, Conn. — General Electric's refrigerator production is going ahead at as high a level as permissible under OPM regulations, and has in no way been hindered by the company's defense work, declares A. M. Sweeney, manager of the household refrigerator section.

"We expect to make and ship the quantity of refrigerators set for us by the OPM curtailment order," Mr. Sweeney said. "This production is sufficient to give every distributor his original 1941 quota in the remaining months of the year."

## Philco Corp. Produces Millionth Fuse

PHILADELPHIA — Brief ceremonies marked the production of Philco Corp.'s 1,000,000th M-48 point-detonating fuse for the U. S. Army in the same metal-stamping factory that a year ago was concentrating on making radio chassis.

Following an educational order for 5,000 fuses received early in 1940, Philco has been awarded two fuse contracts totaling \$3,630,525. Philco is also producing various kinds of communications equipment for the U. S. Signal Corps, and the company's research laboratories have been concentrating on special defense work for some months.

## Jewett Expects Sub-Contracts From Large Arms Firms

BUFFALO — As a result of a defense clinic here which brought together prime contractors on government defense orders and some of the smaller manufacturers, the Jewett Refrigerator Co. made contacts with large arms manufacturers to lift its production and employment.

The company now is producing mortuary refrigerators for base hospitals and also refrigerators used by airplane manufacturers for freezing rivets used in plane production.

joined by Parker standard tube couplings and S.A.E. or other flare-type fittings. Mueller Brass Co. is developing fittings for the tubing in which contact between fittings and material conveyed is eliminated.

**Anaconda Copper**  
**Refrigeration Tubes**  
for difficult jobs!

**THE AMERICAN BRASS CO.**  
FRENCH SMALL TUBE BRANCH  
General Offices: Waterbury, Conn.

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**PENN Leads in**  
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*Specify and Buy Fedders*  
**REFRIGERATION PRODUCTS**  
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HERMETIC UNITS - COMPRESSORS - PARTS  
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Complete Line Refrigeration Parts - Tools - Supplies  
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**GALE**  
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Single and twin cylinder units.  
Engineered and manufactured  
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**Use CHICAGO SEALS**  
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A complete line in all sizes  
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65 Different Fin Sizes  
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The outstanding superiority of Ranco Type 91G2 has been conclusively demonstrated. The value of the principle is fully recognized. Temperature operation --- completely automatic defrosting --- uniform control even when the compressor is out in the cold --- reduced trimming losses and consistently better food quality! Fully tried --- fully proven.

*Another* **RANCO "First!"**



## Walk-In Pre-cools 'Pop' For Vending Machine

ROXBORO, N. C.—A walk-in cooler recently was sold for a rather unusual application by Toby Ledbetter of Roxboro. The cooler was installed in a nearby cotton mill as a pre-cooler for Coca-Cola bottles before they are placed in an automatic vending machine.

This pre-cooling naturally lessens the cooling requirement of the vending machine and results in more satisfactory service for a fast turnover of drinks.

**KERO TEST**  
Valves and Fittings  
The Standard of the Industry  
Kerotest Manufacturing Co.  
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**SPECIFY Virginia REFRIGERANTS**  
VIRGINIA SMELTING CO.  
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Permanent Air-Filter Panels  
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**SAF-T-LOC Individual Lockers**  
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**ALCO Specify ALCO Engineered Refrigerant Controls for Maximum Performance**  
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ENGINEERED TO YOUR EXPECTATIONS  
BUNDY TUBING CO., DETROIT

**END TROUBLE CALLS!**  
Investigate the exclusive advantages of White-Rodgers Hydraulic Action Controls. Your copy of new catalog will be sent by return mail. Write today!  
White-Rodgers Electric Co.  
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HARTFORD, CONN.

**Specify DRYERS THAT BEAR THIS LABEL**  
CHARGED WITH SILICA GEL  
DAVISON'S  
Ask your Jobber

## Preference Ratings, 'Defense Orders' Explained To Rema By OPM Official

(Concluded from Page 1, Column 2)  
we are devoting only from 5 to 10% of our total economical efforts to defense, so that next year we will have to be doing three to five times as much as we are doing in 1941. In Germany, it is estimated that 60% of the national energy is being devoted to the prosecution of the war; in Great Britain, 50%.

"Talk about scarcity of materials is not 'hokey.' Figures just made available with reference to the supply of copper available for the United States in 1942 estimate that it will not exceed 1,650,000 tons. On the other hand, it is estimated that the copper demands of the defense program for 1942 will be at least 1,300,000 tons. This leaves only 350,000 tons for civilian requirements, which in 1941 amount to 1,200,000 tons. But even the 1,650,000 tons may not materialize, due to the shortages in receipts of copper from Chile.

### TWO-WAY CONTROL

"The priorities system," continued Dr. Pratt, "attempts a two-way control of vital materials—at the top, it endeavors to control the finished products which go into the defense program; at the bottom, it endeavors to control the raw material.

"Preference ratings on the finished products are merely 'identification tags.' A system of allocation at the other end channels the raw materials into the uses in their order of importance to the defense program.

"What is meant by 'defense,' particularly with reference to the use of the term 'defense business'?"

### 'DEFENSE ORDER' MEANING

"A 'defense order,'" stated Dr. Pratt, in answer to his own question, "means four separate and distinct things:

"1. An order actually originating out of an Army or Navy contract or a contract entered into by certain other government departments, such as: The Maritime Commission; Panama Canal; Coast Guard; Civil Service Aeronautics Authority, etc.

"2. An order originating in any one of the countries cooperating with us in the defense program, including the lease-lend countries and certain other friendly nations.

"3. An order directly or indirectly related to either of these first two types of orders, and

"4. Orders which have been defined by the Division of Priorities to be technically 'defense' orders, such as the orders for repair parts provided for in the recent order covering repairs.

### PREFERENCE RATING

"On all rated orders, these orders which carry preference ratings," continued Dr. Pratt, "two things are important:

"1. The rating actually assigned to an order, because that rating shows the degree of urgency which that order bears in the defense program and

"2. The delivery date of the order, because it is almost as important to know the delivery date as it is to know the preference rating. Naturally, an order with an A-1-A preference rating will take precedence over an order with an A-10 rating.

"If, however, the order with the A-10 rating has a delivery date of Nov. 15 and the order with the A-1-A preference rating has a delivery date of July 1 next, and provided that the order with the earlier delivery date can be produced without interfering with the rated order with the later date, then the manufacturer may proceed to fill the lower rated order. But under no circumstances, may the manufacturer allow the lower rated order to interfere with the delivery of the higher rated order on its due delivery date.

"The orders issued under the authority of the Division of Priorities are the law of the land, and please do not forget it. These orders are just as enforceable as any other laws on the Federal statute books.

"The Defense Supplies Rating Plan is a device which has been set-up by the Division of Priorities to accommodate manufacturers who produce to 'stock' rather than to order. If a manufacturer's business is such that it flows steadily on from month to month without great variations in the character of its customers, then the manufacturer is eligible

for the Defense Supplies Rating Plan which will permit him to purchase his stocks of raw materials in advance of the time when he has to manufacture them and produce his finished product. He may purchase these raw materials even before he knows definitely the names of the customers to whom the goods are to be sold.

"This plan is based, first, upon the supposition that the manufacturer's business will continue in approximately the same way that it has in the past and that the raw materials allotted to the manufacturer will be used by him for that part of his product which is to be used for defense purposes.

### CUSTOMER COOPERATION

"A manufacturer's customers should cooperate with him in an effort to determine the percentage of the business which is actually going into defense, because only with such cooperation can the manufacturer develop the necessary information as to the use for which his products are to be put, and it is only through such information that he can continue to serve his distributors and his retailers.

"The producer who qualifies for this plan is given an A-10 preference rating for all the materials which he will require to produce those of his products which are going into the defense program. These materials he may buy at least three months in advance of the time when he will need to convert them. From time to time he makes reports to the Division of Priorities in Washington, in which reports he shows the proportion of his business which is defense, and also the materials which he requires and which he finds it difficult to obtain."

### REPAIR ORDER HELPS

Dr. Pratt also referred to the recently issued Repair Order and stated that this order made it possible for practically all industries to obtain necessary repair parts. "This," he said, "was done without 'red tape' and without the necessity of submitting applications to Washington.

"The Division of Priorities is doing everything possible to keep civilian business moving," said Dr. Pratt in closing his address. "It is doing everything possible to keep civilian business moving with the provision that the Army and Navy must get the materials which are necessary to the development of our defense program."

## Westinghouse Prepares Plant For Army Order

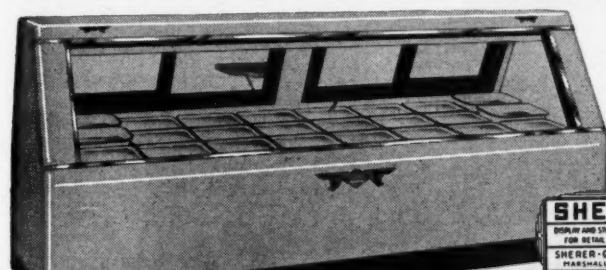
(Concluded from Page 1, Column 5)  
24 hours a day on the Army order, and within a short time it is expected that production will reach the rate of 10,000 binoculars a month. Supervisors, detailed to this work even before the Army order was received, are completing a 30-day training period. As rapidly as other workers can be trained, they will be transferred from their present jobs.

With restrictions looming ahead on manufacture of refrigerators and other electrical equipment for the home, the local Westinghouse factory is endeavoring to bring in new activities which will enable the company to absorb workers who might otherwise have nothing to do.

YES SIR! THIS Sherer  
LINE IS A PROFIT MAKER

I'm satisfied with it in every respect!

"I changed over to the Sherer line a year ago and have never regretted it for one minute," says one Sherer producer. You, too, can make sure of your share of 1941's extra business by selling Sherer's complete line of display and storage refrigerators, backed by closely-knit factory cooperation.



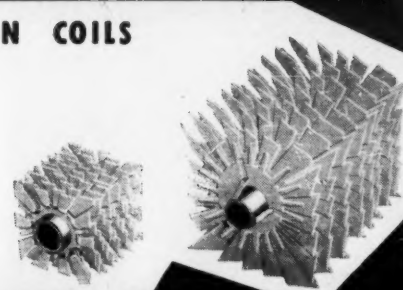
Sherer-Gillett Co. MARSHALL, MICH.

Write today for complete franchise details concerning the Sherer line.

### FOR MAXIMUM EFFICIENCY

### Exclusive PROPELLER-FIN COILS

American's exclusive Propeller-Fin gravity-coils and Propeller-Fin Jr. forced air cooler coils nearly double B.T.U. transfer. The secret lies in the serrated fin, shaped like a propeller. Smaller coil areas, less weight, less metal will do the job. For maximum efficiency specify American Coils—the fastest growing line.



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A SINGLE CONTROL Universal in Application  
THE NEW **POLARTRON**  
FOR PRESSURE CONTROL UP TO 1 H.P.A.C.  
MINNEAPOLIS-HONEYWELL REFRIGERATION CONTROL  
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IT PAYS!  
TYLER dealers are an alert, aggressive, money-making crowd. Complete refrigerator line, outstanding features, extra value. Built right, priced right. Write Tyler Fixture Corporation, Dept. A-1, Niles, Michigan.

**'THIRST LIEUTENANT'**  
DRY STORAGE BOTTLED BEVERAGE COOLER  
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NEW EXTERIOR FINISH  
A SENSATIONAL VALUE  
HERE'S YOUR CHANCE TO DOUBLE YOUR VOLUME!  
PROMPT DELIVERY  
INQUIRE TODAY!  
**FOGEL REFRIGERATOR COMPANY** Since 1899  
Philadelphia, Penna.

**Glamour!**  
Glamour is as necessary to the modern market as sanitation and smart merchandising. That's why merchants want K-Beam, for K-Beam makes fine products glamorous, appealing, and irresistible. Products are shown in true natural colors, yet look finer than ever. K-Beam is a system available only in Koch cases. It, and other distinctive Koch features, makes Koch the outstanding display case. Write today for complete details, open territories, and the Koch distributor plan.  
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NORTH KANSAS CITY, MISSOURI  
You'll make money selling



## New Distributor In Kansas City

KANSAS CITY, Mo.—Kansas City Stove & Electric Co. has been appointed Crosley distributor for this area.

**FROM 1/4 to 25 TONS OF REFRIGERATION**

Brunner Refrigerating and Air Conditioning equipment comprises air and water cooled condensing units for practically all types of commercial applications up to and including 25 tons of refrigeration. Catalog promptly on request. Brunner Manufacturing Co., Ulica, N. Y., U. S. A.

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FOR YEARS THE SYMBOL OF QUALITY

**Anaconda Copper Refrigeration Tubes**

Unusually soft!

ANACONDA

THE AMERICAN BRASS CO.  
FRENCH SMALL TUBE BRANCH  
General Offices, Waterbury, Conn.

**MILLS MIGHTY REFRIGERATION**

Mills Condensing Units  
By Mills Novelty Company  
4100 Fullerton Ave., Chicago, Ill.

**EASY TO SELL!**

More than 20 years of high reputation...in every kind of refrigeration service...has established the name "Lipman" as a BUY word that breaks down sales resistance. Make this reputation your sales asset...for greater profit and better customer satisfaction.

**Lipman**

GENERAL REFRIGERATION DIVISION  
Yates-American Machine Co.  
Dept. AC-1, Beloit, Wisconsin

**NO HUM-M-M-M!  
NO CHATTER!  
NO SQUEE-E-K!**

We've designed the chatter out of SUPERIOR check valves...you can definitely bank on that!

Opens and closes tightly below six ounces pressure... Minimum of pressure drop... All internal parts removable for soldering lines to valves, or for future inspection of parts, without removing valve from line.

**TRULY-A SUPERIOR CHECK VALVE**

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## Kinetic Chemicals Wins Decision of Jury In N.Y. Supreme Court

JAMAICA, Long Island, N. Y.—What is probably the last chapter in the damage suit instituted nearly two years ago by five New York City firemen against Kinetic Chemicals, Inc., Carrier Corp., Quinn Engineering Co., and J. De Leo & Co. was written Oct. 27 in the courtroom of Judge Thomas Cuff, in Part Three of the Supreme Court of the State of New York here, when a jury brought in a verdict in favor of the defendants.

The suit arose from injuries allegedly sustained by the firemen while fighting a blaze in the fur manufacturing establishment of the De Leo firm. Storage vault used by this firm was cooled by a Carrier air conditioning unit installed by Quinn Engineering Co. and using "Freon-12" refrigerant manufactured by Kinetic Chemicals, Inc.

During the fire a number of firemen were overcome by smoke. It was alleged that the fire was started by a stalled motor in the air conditioning unit. The plaintiffs sought to show that it was negligence on the parts of the defendants that caused them (the plaintiffs) to be overcome.

On Jan. 19, 1940, Judge Stoddart of the Supreme Court of Queens County, New York, dismissed the suit, holding that the refrigerant "Freon-12" is not inherently dangerous, and that there had been no proof of negligence on the part of the defendants.

Subsequently, the plaintiffs appealed this case to the Appellate Division of the Court of New York. Some time ago the Appellate Division dismissed Kinetic Chemicals, Inc. and Carrier Corp. as defendants, but returned the case for retrial against Quinn Engineering Co. and J. De Leo & Co., voting three to two that a jury must determine whether the absence of a permit had anything to do with the alleged injuries to the firemen.

The case came up for trial on Oct. 6 of this year before Judge Cuff. Between this time and the jury's verdict on Oct. 27, much the same testimony was taken in behalf of the defendants as in the former trial. The defendants submitted several witnesses, however, and because of the allegations the case was narrowed down to the question of whether or not the injury of the firemen was caused by the decomposition products of "Freon-12."

The jury brought in a verdict in favor of the defendants, thus establishing the fact that the firemen were not injured by the decomposition products of "Freon-12."

## Michigan ASHVE To Hear 2 Talks on Defense

DETROIT—"Heating, Ventilating, and Air Conditioning of Defense Buildings" will be discussed by two speakers at the next meeting of the Michigan chapter of ASHVE at 6:30 p.m. Monday, Nov. 10, in Huyler's L'Aiglon restaurant in the Fisher building here.

Speakers will include W. C. Randall of Detroit Steel Products Co.; Herbert E. Ziel of Albert Kahn, Inc.; and A. E. Jennens of Ford Motor Co.

## C-H Net Tops Million

MILWAUKEE—For the nine months ending Sept. 30 Cutler-Hammer, Inc. reports a net profit of \$1,242,542, equal to \$1.88 each on 659,998 shares of capital stock. In the same period last year the company netted \$925,227, or \$1.40 a share.

## N.Y. Edison Tries To Salvage 'Plan'

(Concluded from Page 1, Column 3)

known that no real plan for such a program ever existed—although an outline was drawn up and a meeting was held by Mr. Jeffe with various factors in the trade to discuss the plan. But efforts are apparently still in the wind to salvage part of the original idea.

Rumor says that there is to be another meeting soon at which Mr. Jeffe will discuss his objectives—and means of attaining those objectives.

Mr. Jeffe has something to sell—power and gas—and he can't sell these commodities to householders unless they have something or a number of things which consume the commodities that Mr. Jeffe sells. And even if they have such appliances, they're no good to Mr. Jeffe unless they are in operating condition.

Furthermore, Mr. Jeffe likes to distribute his commodities in increasing volume, and it pained him to think what might happen when renting season came around and priorities and whatnot had possibly cut deeply into the supply of new refrigerators.

He knows that Mrs. New Yorker today will not take an apartment which is not equipped with refrigeration. So to his mind flashed the unpleasant picture of iceboxes being installed in refrigeratorless apartments or taking the place of wornout and inoperative mechanical units.

Answer to that, he possibly reasoned, was a centrally controlled

repair, maintenance, and reconditioning plan which would:

(1) Assure (because of central control) the continued operation of all refrigerators presently installed (and thus keep them as power users).

(2) Help to finance both the reconditioning and resale of used or traded-in refrigerators on a wholesale basis.

On item (1) the dealers, service companies, and refrigeration supply jobbers have apparently convinced Mr. Jeffe that the existing independently operated setup is capable of handling all repair and maintenance.

But on item (2) plans may be developed (in somewhat changed form) to do some of the financing for those concerns which recondition used boxes. Some members of the trade think possibly the plan may apply to the Electrolux refrigerator only, others believe it could apply to all makes.

## OPA Hints Prices Must Not Be Too High

WASHINGTON, D. C.—Appliance manufacturers may have to revise current ideas on prices for 1942, if the Office of Price Administration has its way.

One company recently submitted a list to OPA on its new 1942 lines, it is reported, and was told that some items were too high. Company officials and OPA men are now arguing over the list, with company officials attempting to justify it.

There has been no hint as yet as to whether the OPA is critical of any specific cost items that may have been included.

# VERSATILITY...

## In "Civilian" Duty or Defense Needs

# DEPENDABLE VALVES

One measure of any product is its quick acceptance for "Emergency Duty"... Its recognized Versatility in successfully serving those new duties.

In domestic and commercial Refrigeration and Air Conditioning, A-P DEPENDABLE Valves have long ranked high in the regard of men responsible for mechanical perfection and efficiency of expensive installations. Refrigeration Service

Engineers have learned to use them with confidence—and profit.

Today, Defense demands new uses, new applications for Refrigeration and Air Conditioning, in fields removed from standard needs of food preservation and human comfort... In the manufacture of Aircraft, Engines, Tools, Shells, Radio Mechanisms, Steel, Copper, Metal Alloys—to name only a few. In these more stringent demands,

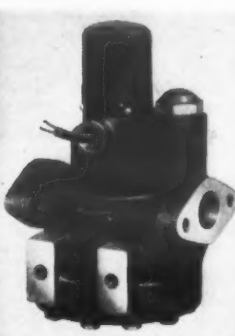
where production must go on without interruption, its natural that A-P DEPENDABLE VALVES should play an important part.

Defense has added hundreds, thousands of new duties to A-P DEPENDABLE Valves, duties that are being accomplished with outstanding success in all fields. This is proven Versatility that YOU can use profitably.

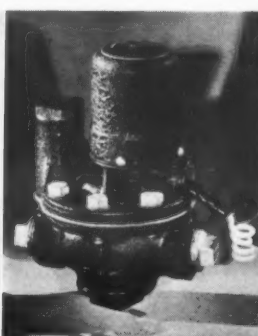
## DEPENDABLE VALVES...



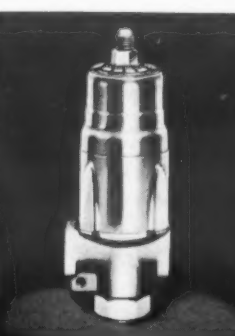
Thermostatic Expansion Valves



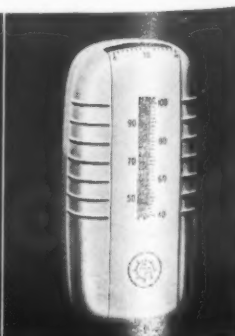
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